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EVALUATION OF ARIZONA'S HEALTH CARE COST CONTAINMENT SYSTEM DEMONSTRATION

FINAL REPORT

February 1996

Prepared for:

Joan Peterson
Office of State Health Reform Demonstrations
Health Care Financing Administration
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GLOSSARY OF ABBREVIATIONS AND ACRONYMS

ABC	Access Blue Connection
ADL	Activity of Daily Living
AFDC	Aid to Families with Dependent Children
AHC	Arizona Health Concepts
AHCCCS	Arizona Health Care Cost Containment System
ALTCS	Arizona Long-Term Care System
APD	Advance Planning Document
APIPA	Arizona Physicians Independent Physicians' Association
AS	AHCCCS Select
CATS	Client Assessment and Tracking System
ccc	Cigna Community Choice
CCDHS	Cochise County Department of Health Services
CCIC	Coordinated Community In-Home Care
CCP	Children's Care Program
CMDP	DES Comprehensive Medical and Dental Plan
CMP	Children's Medical Program
CSDP	Comprehensive Service Delivery Plan
DES	Department of Economic Security
DHP	Doctors' Health Plan
DSH	Disproportionate Share Hospital
EAC	Eligibility Assistance Children
ELIC	Eligibility Low-Income Children
EPD	Elderly and Physically Disabled
EPSDT	Early and Periodic Screening, Diagnosis, and Treatment
FFS	Fee-For-Service
FY	Fiscal Year
HCA	Health Choice of Arizona
HCB	Home and Community-Based
HCBS	Home and Community-Based Services
HCFA	Health Care Financing Administration
HMO	Health Maintenance Organization
IADL	Instrumental Activity of Daily Living
ICF	Intermediate Care Facility
ICF/MR	Intermediate Care Facility for the Mentally Retarded
IHS	Indian Health Service
LTC	Long-Term Care
MCP	Mercy Care Plan
MDS	Minimum Data Set
MI	Medically Indigent
MIS	Management Information System
MN	Medically Needy
MN/MI	Medically Needy/Medically Indigent
MMCS	Maricopa Managed Care System
MMIS	Medicaid Management Information System
MR/DD	Mentally Retarded/Developmentally Disabled
NCH	National Claims History
NEAZ	Family Health Plan of Northeastern Arizona
NHIS-SOA	National Health Interview Survey - Supplement on Aging
NMAF	New Mexico Abstraction Form

NMES	National Medical Expenditure Survey
NNHS	National Nursing Home Survey
PAS	Preadmission Screening
PCLTC	Pinal County Long-Term Care
PCP	Primary Care Physician
PHS	Pima Health System
PHX	Phoenix Health Plan
PMMIS	Prepaid Medicaid Management Information System
PRO	Professional Review Organization
QMB	Qualified Medicare Beneficiary
RAHP	Regional AHCCCS Health Plan
RFP	Request for Proposal
SFY	State Fiscal Year
SHMO	Social Health Maintenance Organization
SNF	Skilled Nursing Facility
SOBRA	Sixth Omnibus Budget Reconciliation Act
SSI	Supplemental Security Income
TPL	Third-Party Liability
VHS	Ventana Health Systems
YCLTC	Yavapai County Long-Term Care

I. INTRODUCTION

This report is the final report summarizing findings from the Evaluation of the Arizona Health Care Cost Containment System (AHCCCS), Contract No. HCFA-500-89-0067. The evaluation focuses on the Arizona Long-Term Care System (ALTCS). A previous Health Care Financing Administration (HCFA) evaluation, Contract No. HCFA-500-83-0027 studied the AHCCCS program from October 1982 through December 1987. This earlier evaluation focused on implementation and operation issues and outcome issues in the AHCCCS acute care program.

This chapter begins with a description of the AHCCCS program. Following that is a description of the program's evaluation under Contract No. HCFA-500-89-0067. Chapter II summarizes the implementation and operation findings. Chapter III summarizes the outcome findings. The report concludes with a discussion of overall findings and conclusions in Chapter IV.

The AHCCCS Program

As of July 1995, the AHCCCS program provided medical care services to approximately 450 thousand indigent beneficiaries in Arizona. The program is composed of two parts, the acute care program and the long-term care program, ALTCS. The acute care program had approximately 430 thousand eligible beneficiaries and ALTCS had approximately 20 thousand beneficiaries determined to be at risk of institutionalization. Under each program AHCCCS makes capitation payments to acute care plans or long-term care program contractors to provide the full range of covered services to eligible beneficiaries.

The AHCCCS program began in October 1982. Arizona had never had a traditional Medicaid program, and receives federal Medicaid funding for AHCCCS as a HCFA demonstration project under an 1115 waiver. The program is a

statewide managed care system covering all categories of eligibility. From its beginnings in 1982 until 1989 it provided only acute medical care. Long-term care was included in the system for all beneficiaries at risk of institutionalization by January 1989.

The first few years of the program were problematic as the AHCCCS Administration struggled to set up the infrastructure necessary to support a Medicaid managed care program. By the end of the first five years, the program had demonstrated some significant improvements in access, quality, and cost over traditional fee-for-service Medicaid programs.

Eligibility

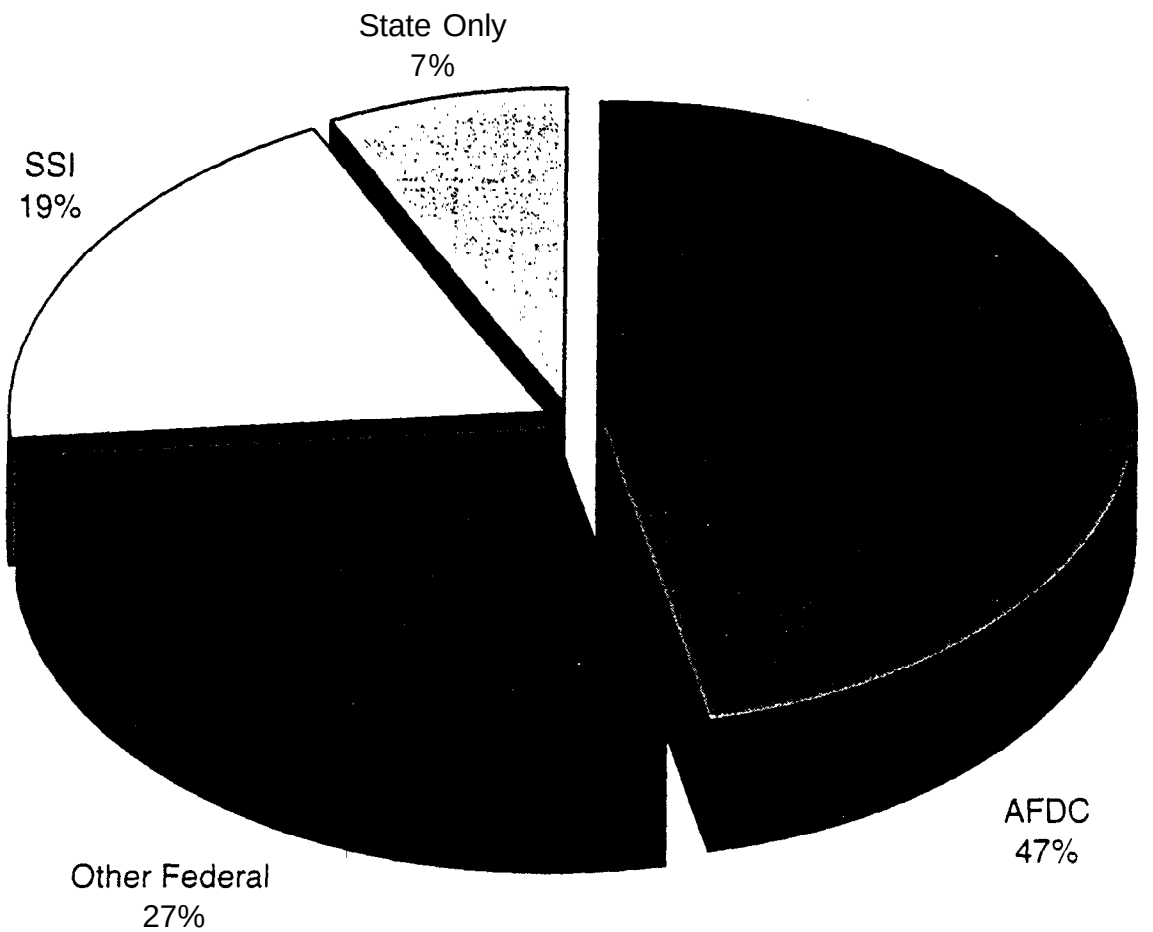
As of July 1, 1995 a total of 446,250 people were eligible for the acute care program and ALTCS.[1] This number does not include Qualified Medicare Beneficiaries (QMBs), who are eligible to have their Part B premiums paid by AHCCCS but who are not eligible to receive AHCCCS services.

Eligibility groups for the AHCCCS program include Aid to Families with Dependent Children (AFDC) beneficiaries, Supplemental Security Income (SSI) beneficiaries, and other federal eligibility groups [Children's Medical Program, Sixth Omnibus Budget Reconciliation Act (SOBRA) eligibles, Federal Emergency Service recipients], and state-only eligibility groups [Eligible Assistance Children (EAC), Eligible Low-Income Children (ELIC), Medically Indigent (MI), Medically Needy (MN), and State Emergency Service recipients].

Figure I-1 shows the eligibles in AHCCCS and ALTCS by category of eligibility in July 1995. As can be seen, the largest group of eligibles, 208,443 (47%) were AFDC cash and medical assistance only beneficiaries. There were 84,601 SSI beneficiaries (19%), 120,370 other federal eligibility group beneficiaries (27%), and 32,836 state-only eligibles (7%). The majority of AHCCCS acute care beneficiaries, 371,627, were enrolled in one of the 14 capitated acute care plans (see Figure I-2). American Indians who elect not to join an acute care plan are served by the Indian Health Service (IHS).

Figure I-1

DISTRIBUTION OF ACUTE AND LONG-TERM CARE BENEFICIARIES
BY CATEGORY OF ELIGIBILITY AS OF JULY 1995

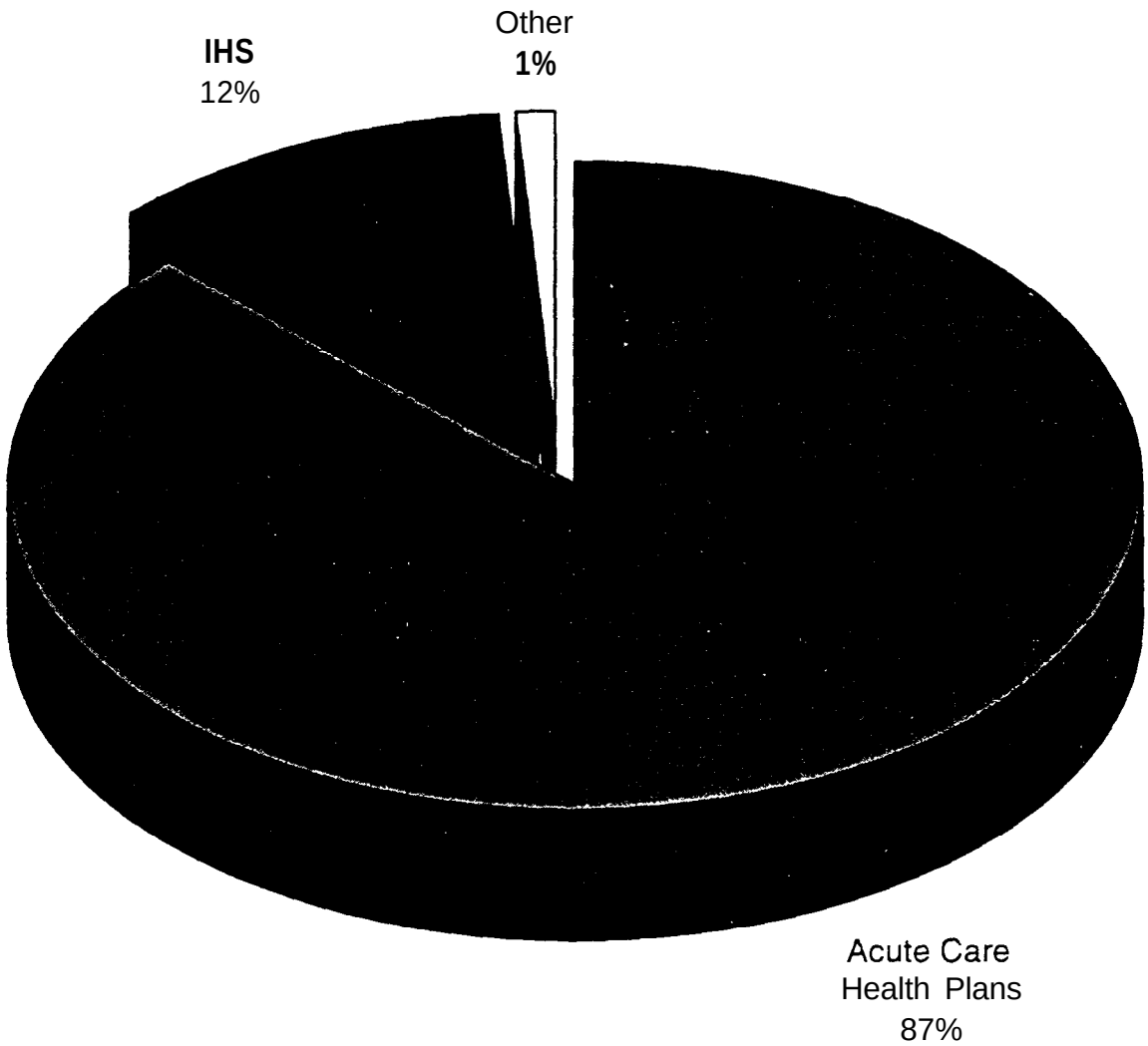


Total = 446,250 beneficiaries

Source: AHCCCS Enrollment/Eligibility Status Report, July 1, 1995

Figure I-2

DISTRIBUTION OF AHCCCS ACUTE CARE BENEFICIARIES
BY SERVICE SOURCE AS OF JULY 1995



Total = 425,889 beneficiaries

Source: AHCCCS Enrollment/Eligibility Status Report, July 1, 1995

They numbered 49,508. Another 1% (4,754) were served by other sources, i.e., they were in fee-for-service or received only emergency services.

Eligibility for ALTCS includes both a financial and a medical/functional screen: Beneficiaries must have income less than 300% of SSI and be determined by state assessors to be at risk of institutionalization. Figure I-3 shows the distribution of ALTCS beneficiaries by their service source. ALTCS beneficiaries are composed of two main groups: the elderly and physically disabled (EPD), and the mentally retarded and developmentally disabled (MR/DD). As of July 1995, 61% of the beneficiaries (12,485) were enrolled with one of the seven EPD program contractors. Thirty-five percent (7,186) were MR/DD beneficiaries served through the Arizona Department of Economic Security (DES). There were 531 American Indians receiving services through their tribes and 159 beneficiaries who received services on a fee-for-service basis.

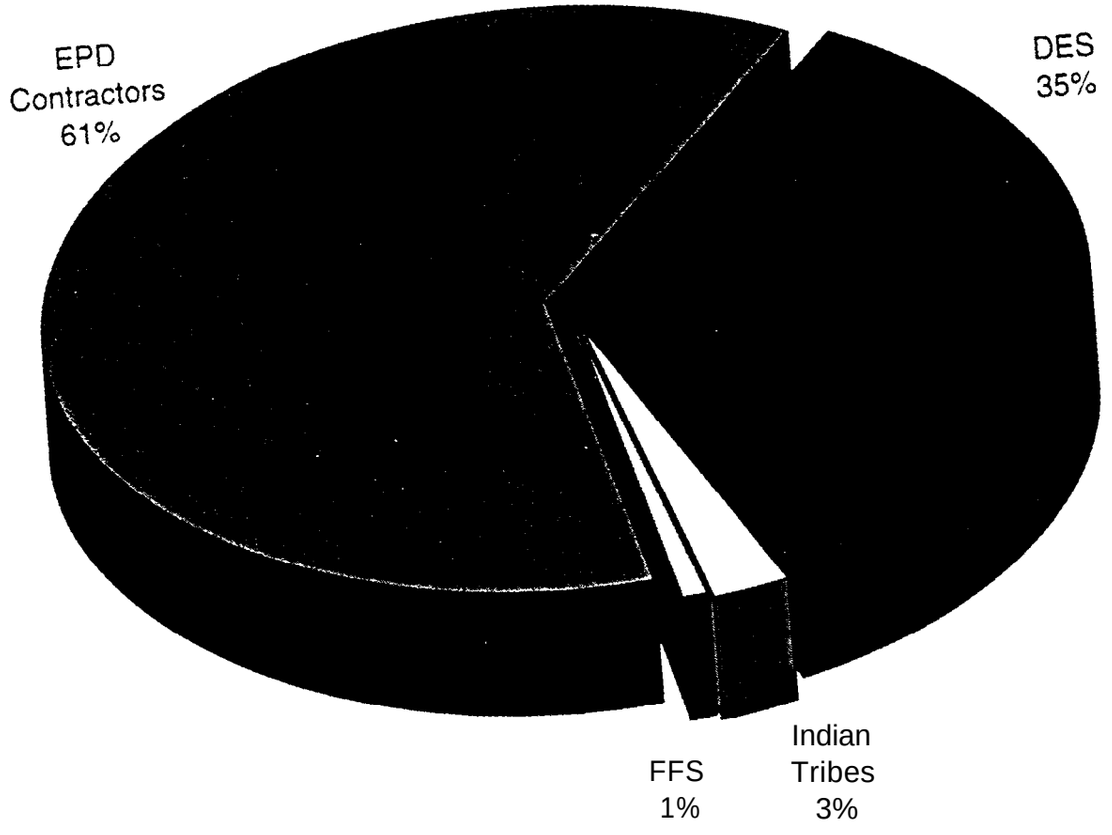
Covered Services

Benefits covered under AHCCCS include all traditional Medicaid program services. Benefits covered by AHCCCS acute care plans include inpatient hospital services, outpatient hospital services, physician services, laboratory, radiology, medical supplies, home health services in lieu of hospitalization, medical equipment, prosthetic devices, pharmacy, emergency services, emergency dental care, emergency ambulance and medically necessary transportation, medically necessary dentures, podiatry services, behavioral health services, family planning services, and early and periodic screening, diagnosis, and treatment (EPSDT) services. Kidney, cornea, heart, lung, heart/lung, **liver, and bone marrow (autologous and allogeneic) transplants are covered for all categories of eligibles.** AHCCCS acute care plans also cover nursing facility services **for short-term (less than 90 days) institutional care.**

Until October 1995, AHCCCS operated under a waiver that allowed the state to limit the behavioral health services provided. Integration of

Figure 1-3

DISTRIBUTION OF ALTCS BENEFICIARIES
BY SERVICE SOURCE AS OF JULY 1995



Total = 20,361 beneficiaries

Source: AHCCCS Enrollment/Eligibility Status Report, July 1,1995

behavioral health services into AHCCCS began to be phased-in in October 1990 and was fully implemented to Medicaid mandatory coverage standards in October 1995.

Beneficiaries receiving AHCCCS services are subject to nominal copayments for some services. For federal beneficiaries, the copayment is one dollar for a doctor's office visit, a doctor's home visit, a laboratory service, or a radiology service, and five dollars for non-emergency surgery or the non-emergency use of an emergency room. For state-only beneficiaries (MN/MIs,EACs,ELICs), the copayment is five dollars for all the visits listed above. Copayments are not required for pregnant women, well-baby or EPSDT care, physician-initiated visits, and visits for those institutionalized. Services cannot be withheld for nonpayment of a copayment amount.

Benefits covered under ALTCS include all of the acute, preventive, and ancillary services noted above, as well as nursing facility, intermediate care facility for the mentally retarded (ICF/MR), home health care, homemaker services, personal care, hospice, respite care, transportation, and attendant care. A HCFA waiver permits family members other than a parent of a client under 21 or a spouse to provide attendant care services. ALTCS coverage also includes habilitation and day-care services for MR/DD beneficiaries, and adult-day health (or group respite) and home delivered meals for EPD beneficiaries.

There is a cap on the amount of home and community-based service (HCBS) use that will be reimbursed by the federal government for the ALTCS EPD population. There is no cap for HCB services provided to the MR/DD population. This cap was initially specified as 5% of ALTCS program EPD expenditures. Because of the difficulty in implementing the 5% expenditure ceiling on a prospective basis, AHCCCS imposed a 10% limit on the percentage of enrollees that could be in the community receiving HCB services. The percentage of ALTCS eligibles receiving HCB services has increased each program year. In fiscal year 1995 (FY 95), October 1, 1994 through September 30, 1995, the cap was 40% of the total eligible EPD population.

Approximately six percent of the acute care beneficiaries and 65% of the long-term care beneficiaries are also covered by Medicare. Medicare is the first payer for all Medicare covered services, and providers submit bills directly to Medicare for covered services. Capitation payments to the acute care plans differ by whether the beneficiary is covered by Medicare. They do not differ in the long-term care program but the overall rate is developed using an assumed rate of Medicare payments.

Acute Care Plans and Long-Term Care Prooram Contractors

AHCCCS contracts with acute care plans and long-term care program contractors for covered medical services. A complete listing of all acute care plans and long-term care program contractors and their respective acronyms used throughout this report is given in Figure I-4. The plans and program contractors in turn arrange for the provision of these services through arrangements with hospitals, long-term care institutions, HCBS providers, physicians, laboratories, pharmacies, and medical equipment suppliers.

There were 14 AHCCCS acute care plans as of July 1995 (see Figure I-4). All of the 15 Arizona counties are served by at least two plans. Figure I-5 shows the acute care plans serving each of Arizona's counties. Most beneficiaries have a choice of plan upon eligibility determination and can change plans every year during an open enrollment period. MN/MI beneficiaries are automatically assigned to a plan but can change plans during the open enrollment period. Plans are reimbursed a capitation amount that varies by eligibility group, county, and plan. Capitation rates in FY 95 ranged from $98.44 to $113.55 for AFDC beneficiaries. For SSI beneficiaries without Medicare, they ranged from $263.00 to $321.34. The state provides reinsurance to reduce the financial risk of very costly enrollees.[2]

There were seven ALTCS EPD program contractors as of July 1995: Arizona Physicians Independent Physicians' Association (APIPA), Cochise County Department of Health Services (CCDHS), Maricopa Managed Care System (MMCS),

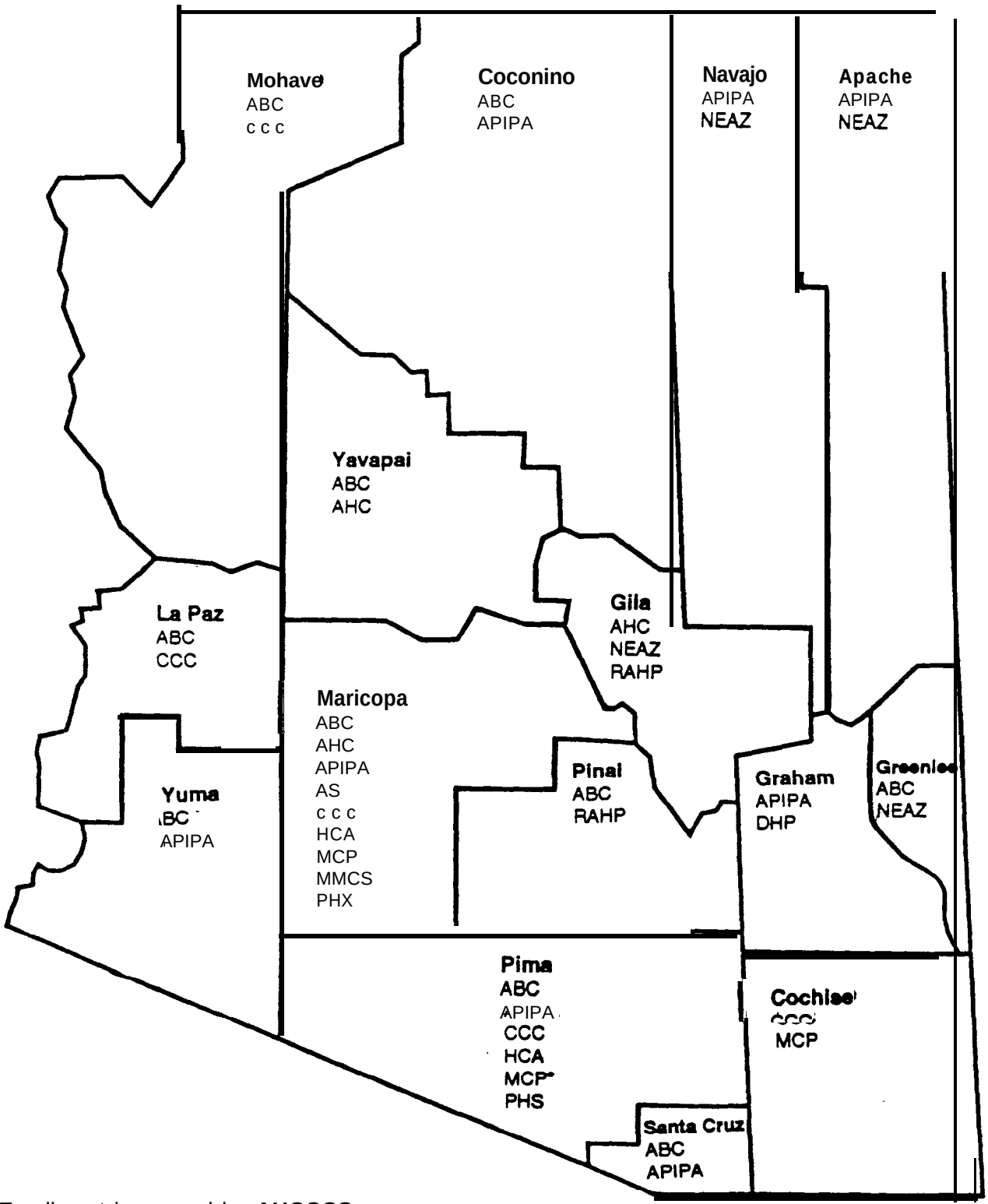
Figure I-4

AHCCCS ACUTE CARE PLAN AND ALTCS LONG-TERM CARE PROGRAM CONTRACTOR ACRONYMS BY PLAN AND CONTRACTOR AS OF JULY 1995

	Acronym
Acute Care Plans	
Access Blue Connection	ABC
AHCCCS Select	AS
Arizona Health Concepts	AHC
Arizona Physicians Independent Physicians' Association	APIPA
Cigna Community Choice	c c c
Department of Economic Security Comprehensive Medical and Dental Plan	CMDP
Doctors' Health Plan	DHP
Family Health Plan of Northeastern Arizona	NEAZ
Health Choice of Arizona	HCA
Maricopa Managed Care System	MMCS
Mercy Care Plan	MCP
Phoenix Health Plan	PHX
Pima Health System	PHS
Regional AHCCCS Health Plan	RAHP
Long-Term Care Program Contractors	
Arizona Physicians Independent Physicians' Association	APIPA
Cochise County Department of Health Services	CCDHS
Department of Economic Security, Division of Developmental Disabilities	DES
Maricopa Managed Care System	MMCS
Pima Health System	PHS
Pinal County Long-Term Care	PCLTC
Ventana Health Systems	VHS
Yavapai County Long-Term Care	YCLTC

Figure I-5

ACUTE CARE PLANS BY COUNTY AS OF JULY 1995



• Enrollment is capped by **AHCCCS**

Note: **Foster care** children **in all counties are enrolled with CMDP**

Pima Health System (PHS), Pinal County Long-Term Care (PCLTC), Ventana Health Systems (VHS), and Yavapai County Long-Term Care (YCLTC). There is one ALTCS MR/DD program contractor, DES.

Figure I-6 shows the ALTCS EPD program contractor serving each of Arizona's counties. Cochise, Maricopa, Pima, Pinal, and Yavapai counties are the contractors for all EPD clients in their respective counties. APIPA provides ALTCS services to EPD beneficiaries in Coconino and Yuma counties. VHS is the contractor for EPD beneficiaries in eight small rural counties: Apache; Gila, Graham, Greenlee, La Paz, Mohave, Navajo, and Santa Cruz. EPD contractors are paid a capitated amount for their enrollees, which ranged from a low of $1,959.65 per month to VHS to a high of $2,139.85 per month to PHS in FY 95. Providers are expected to collect Medicare payments directly from the Medicare program. Capitation rates are constructed assuming a specific level of Medicare payments and a specific percentage mix of nursing home and HCBS placements. Financial incentives are provided to serve more beneficiaries in HCB care than the assumed percentage mix.

DES is the ALTCS program contractor for all MR/DD beneficiaries statewide. Until FY 93, DES was paid a per diem rate by ALTCS that varied by the level of care (skilled nursing facility, intermediate care facility, ICF/MR, and HCBS) and type of enrollee (AFDC, aged, blind, disabled). The FY 95 DES capitation rate was $2,383.70 per month.

Table I-1 shows AHCCCS acute care plan enrollment by plan as of July 1, 1995. IHS served 12% of the beneficiaries. The four largest plans, APIPA, Mercy Care Plan, Cigna Community Choice, and Access Blue Connection, served 57% of plan enrollees, while the remaining 32% of the beneficiaries were served by the smaller plans.

Table I-2 presents ALTCS enrollment by program contractor. As of July 1, 1995 there were 20,361 ALTCS enrollees, of whom 531 were American Indians enrolled with tribal providers. MR/DD beneficiaries enrolled with DES comprised 35% of the ALTCS enrollees. The remaining beneficiaries were enrolled with an EPD program contractor.. MMCS had 37% of total ALTCS

Figure I-6

ALTCS EPD PROGRAM CONTRACTORS BY COUNTY AS OF JULY 1995

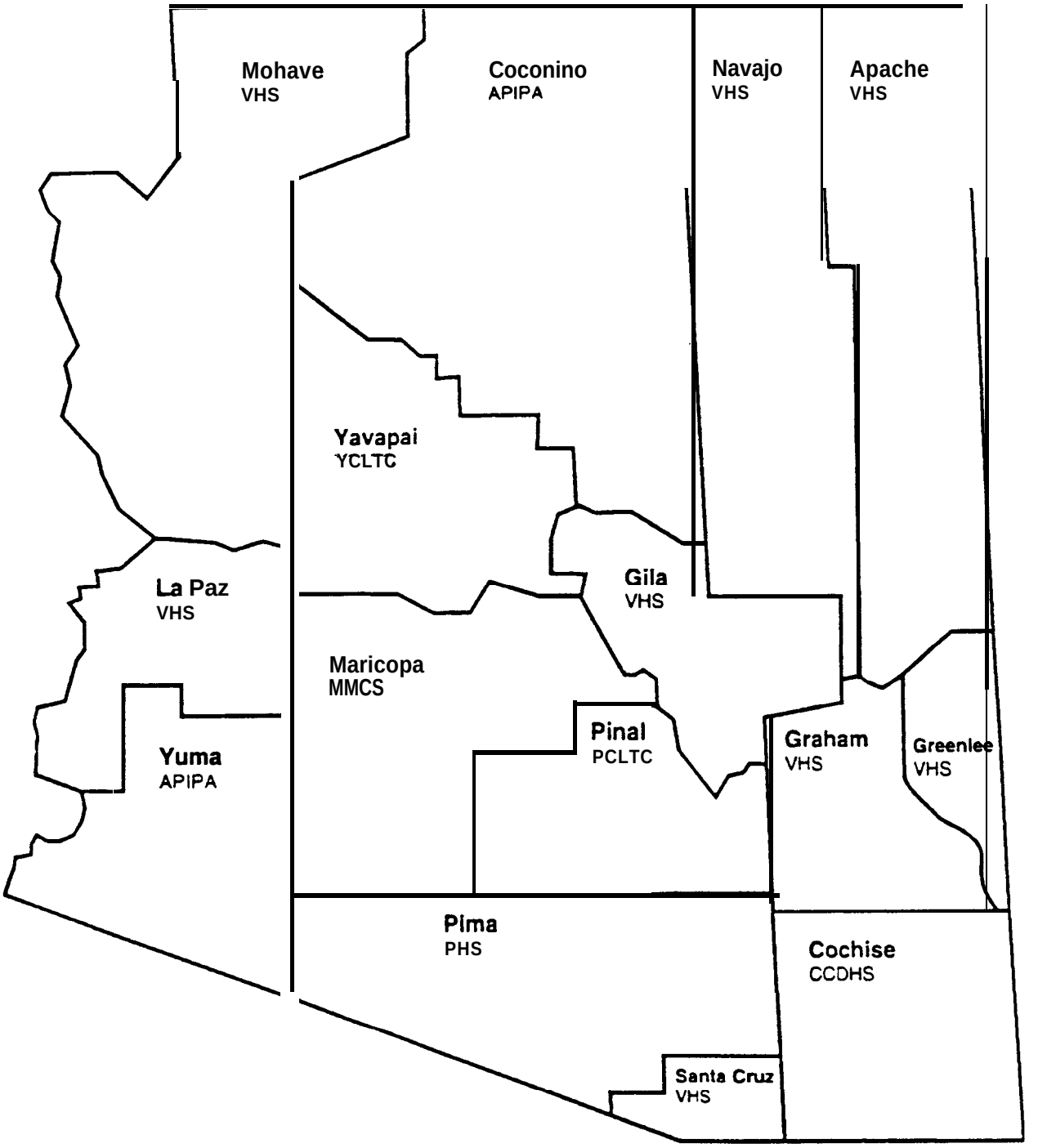


Table I-I

NUMBER AND PERCENTAGE OF ACUTE CARE BENEFICIARIES
BY PLAN AS OF JULY 1995

	Number*	Percent+
Access Blue Connection	34,297	8
AHCCCS Fee-For-Service	27	<1
AHCCCS Select	4,265	1
Arizona Health Concepts	10,281	2
Arizona Physicians Independent Physicians' Association	98,965	23
Cigna Community Choice	40,522	10
Department of Economic Security Comprehensive Medical and Dental Plan	4,747	1
Doctor's Health Plan	2,468	1
Family Health Plan of Northeastern Arizona	6,071	1
Health Choice of Arizona	31.609	8
Indian Health Service	49,508	12
Maricopa Managed Care System	30,065	7
Mercy Care Plan	64,426	15
Phoenix Health Plan	20.481	5
Pima Health System	12,453	3
Regional AHCCCS Health Plan	10,977	3
ALL PLANS	421,162	100

Source: AHCCCS Enrollment/Eligibility Status Report, July 1, 1995

- This does not include 4,635 beneficiaries receiving emergency services only and 92 long-term care beneficiaries receiving acute services only (50 in Maricopa LTC, 9 in Pima LTC, and 33 in fee-for-service LTC)
- + Numbers may not add to 100 due to rounding

Table I-2

NUMBER AND PERCENTAGE OF LONG-TERM CARE BENEFICIARIES
BY PROGRAM CONTRACTOR AS OF JULY 1995

	Number*	Percent'
AHCCCS Fee-For-Service	159	1
Arizona Physicians independent Physicians' Association	407	2
Cochise County Department of Health Services	395	2
Department of Economic Security	7,221	35
Indian Tribe Providers**	531	3
Maricopa Managed Care System	7,545	37
Pima Health System	2,080	10
Pinal County Long-Term Care	474	2
Ventana Health Systems	1,027	5
Yavapai County Long-Term Care	522	3
ALL **PROGRAM CONTRACTORS**	**20,361**	**100**

Source: AHCCCS Enrollment/Eligibility Status Report, July 1, 1995

- Totals include 88 ventilator-dependent patients: 2 enrolled with AHCCCS fee-for-service, 1 enrolled with CCDHS, 2 enrolled with APIPA, 2 enrolled with VHS, 35 enrolled with DES, 34 enrolled with MMCS, and 12 enrolled with PHS
- Numbers may not add to 100 due to rounding
- These 531 include 334 American Indian beneficiaries enrolled with Navajo Nation, 73 enrolled with White Mountain Apache Tribe, 55 enrolled with Gila River Tribe, 47 enrolled with San Carlos Apache Tribe, and 22 enrolled with Pasqua Yaqui Tribe

enrollees, and PHS had 10%; 5% of the ALTCS enrollees were enrolled in VHS, 3% in YCLTC, 2% in PCLTC, 2% in APIPA, and 2% in CCDHS. ALTCS recipients who were served directly by AHCCCS numbered 159, or less than 1% of total ALTCS enrollees.

Revenues and Expenditures

Figure I-7 shows the distribution of AHCCCS state fiscal year 1995 (SFY 95) projected revenues by source. Total revenue was projected to be $1.888 billion. As can be seen, the largest source of funds was the federal government, which was projected to supply $1.135 billion (60%) of the revenues. State appropriations were projected to account for $562 million (30%) and county contributions were projected to account for $186 million (10%) of the revenue. A small amount, $5 million (<1%), was projected to come from interest income, third'party collections, and fiscal sanctions.

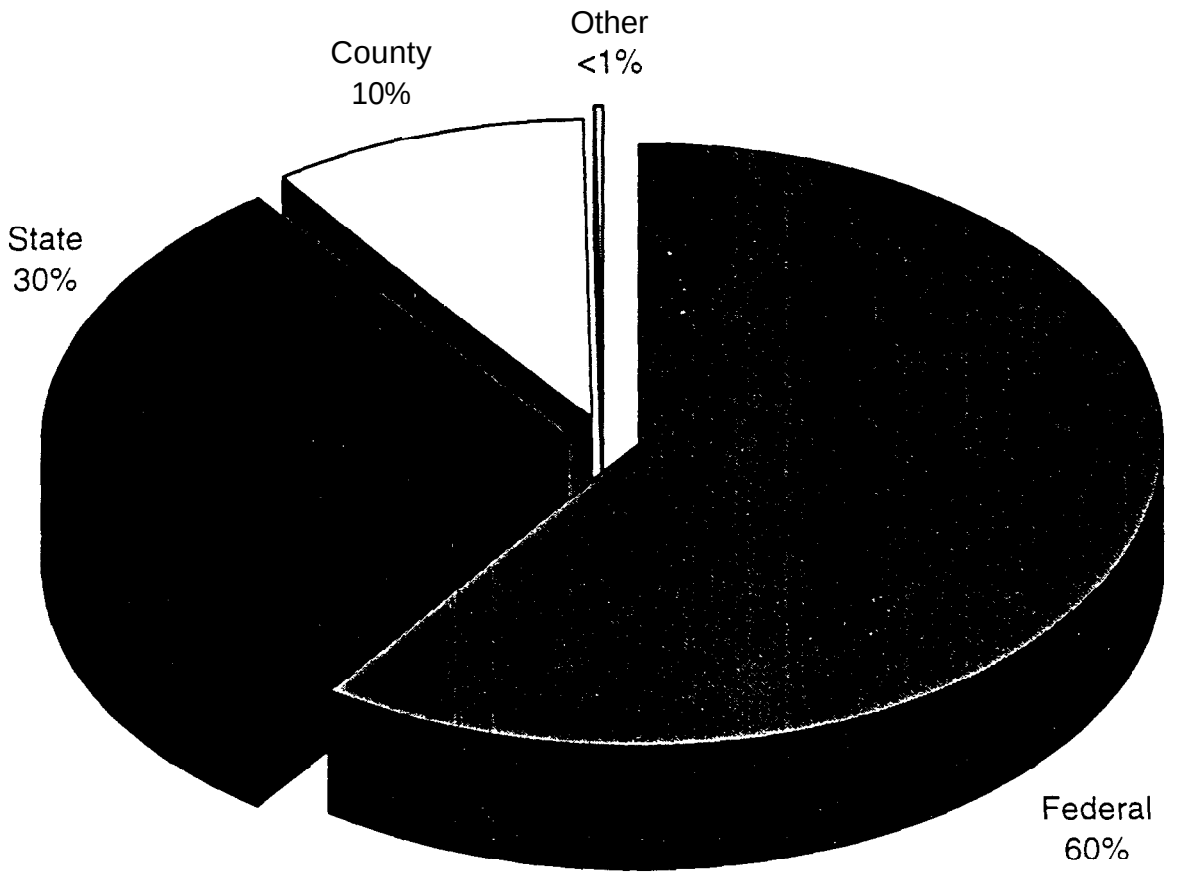
Figure I-8 shows the distribution of projected program expenditures as of June 1995. Capitation payments ($718 million) and ALTCS medical costs (5536 million) made up approximately two-thirds of program projected expenditures. Fee-for-service payments ($198 million) were 10%. Disproportionate share hospital (DSH) payments ($124 million) made up 7% of total projected expenditures. Adult and EPSDT mental health ($106 million) comprised 6% of projected expenditures, and administrative costs ($101 million) comprised 5% of projected expenditures. Other expenditures (reinsurance, deferred liability, children's rehabilitation, Medicare premiums, and QMBs) together were projected to comprise 6% of expenditures ($106 million).

The Program Evaluation

The evaluation of the AHCCCS program under Contract No. HCFA-500-89-0067 began in October 1989. It was conducted by Laguna Research Associates under contract to HCFA. The evaluation team also includes Actuarial Research

Figure i-7

DISTRIBUTION OF AHCCCS PROJECTED REVENUE FOR STATE FISCAL YEAR 1995 BY SOURCE AS OF JUNE 1995

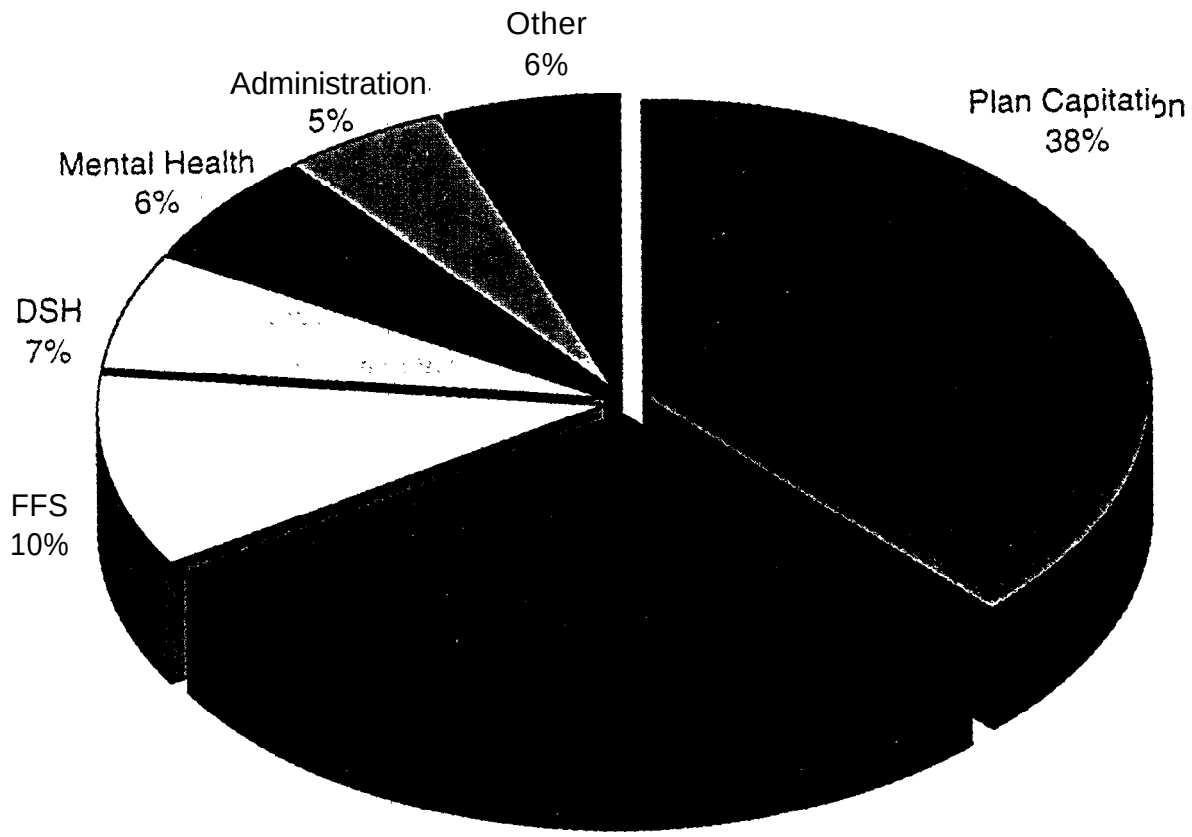


Total Projected Revenue = **$1.9** billion

Source: AHCCCS Administration, June 30, 1995 Appropriation Status Report, adjusted to include Title XIX revenues that are excluded from AHCCCS appropriations (DES/DD, DHS CRS, and DHS Mental Health)

Figure I-8

DISTRIBUTION OF AHCCCS PROJECTED EXPENDITURES
FOR STATE FISCAL YEAR 1995 AS OF JUNE 1995



Total Projected Expenditures = $1.9 billion

Source: AHCCCS Administration, June 30, 1995 Appropriation Status Report, adjusted to include Title XIX revenues that are excluded from AHCCCS appropriations (DES/DD, DHS CRS, and DHS Mental Health)

Corporation, Lovelace Medical Foundation, and the University of Michigan. The evaluation includes both a program implementation and operation analysis, and an analysis of program outcomes. The implementation and operation analysis focuses on five issues:

- Effectiveness of the ALTCS program contractors
- Method of setting capitation payments in ALTCS
- Effectiveness of the ALTCS preadmission screening and level of care determination and the use of HCB services and alternative housing
- Cost of administering the program
- Usefulness of the management information system

Four implementation and operation reports have been prepared over the course of the evaluation. Each of the reports includes a chapter on the developments in AHCCCS as well as chapters on each of the implementation and operation issues above. In addition, the Fourth Implementation and Operation Report includes a chapter describing the acute care plans participating in the AHCCCS program as of January 1994. Chapter II of this report highlights the overall implementation and operation findings.

The outcome analysis focuses on three areas: utilization of services, special studies, and program cost. The utilization analysis includes studies of the utilization of services in ALTCS, the AHCCCS program, and in comparison groups in the New Mexico Medicaid program. For beneficiaries in ALTCS and those receiving chronic long-term care services in the New Mexico Medicaid program, medical care utilization from the Medicare program is also included in the analysis. Special studies have been done of the incidence of indicator conditions in nursing home residents in ALTCS and the New Mexico Medicaid program, and selection bias in the acute care program. The cost analysis focuses on comparisons of the actual cost of the AHCCCS acute care program and ALTCS with estimates of what a traditional Medicaid program serving these groups would have cost in Arizona.

Four outcome reports have been prepared over the course of the evaluation. They report on the outcome analysis conducted to the date of each report. Chapters on utilization are contained in all four of the outcome reports. The indicator study is in the Second Outcome Report, and the selection bias study is in the Fourth Outcome Report. Cost chapters are found in the First, Second, and Fourth Outcome Reports. The results of the outcome analysis are summarized in Chapter III.

Appendix A lists the detailed reports prepared as part of this project. More detailed discussion of the issues presented in this final report can be found in these reports. Appendix B lists a chronology of the AHCCCS program.

II. THE IMPLEMENTATION & OPERATION ISSUES

Overview

In this chapter the implementation and operation findings are summarized. The implementation and operation analysis focuses on the following five issues:

- Effectiveness of program contractors in the Arizona Long-Term Care System (ALTCS) program.
- Method of setting capitation payments in the ALTCS program.
- Preadmission screening (PAS), level of care determination, and use of home and community-based services (HCBS).
- Cost of administering the ALTCS program.
- Usefulness of the management information system.

For each of these issues, the background, major issues and findings, and lessons learned are discussed.

Effectiveness of Program Contractors

Background

At the center of the ALTCS program are the program contractors. These contractors receive prepaid capitation payments to assume responsibility for the provision of acute and long-term care services to program beneficiaries. In theory, program contractor models can create incentives for efficiency that are not present in fee-for-service. For ALTCS to be successful, contracting entities must be willing to participate in the program and must be able to do so effectively by identifying efficient delivery methods, negotiating

advantageous provider contract rates, and maintaining strong quality assurance and utilization review procedures.

Major Evaluation Issues and Findings

Below the contractors, contractor performance, and coordination between the Arizona Health Care Cost Containment System (AHCCCS) and the Medicare program are described.

The Contractors

Selection

Under the ALTCS model, there is one elderly and physically disabled (EPD) program contractor per county. EPD beneficiaries in a county are assigned to that program contractor. Mentally Retarded/Developmentally Disabled (MR/DD) beneficiaries are assigned to the Department of Economic Security/Division of Developmental Disabilities (DES), which is the statewide MR/DD provider.

Since ALTCS' inception, Arizona's two urban counties, Maricopa and Pima counties, have been required by state statute to serve as EPD program contractors in their respective counties. Until July 1995, the county governments in the remaining 13 counties were given the right of first refusal to become EPD program contractors for their county's enrollees. When a county did not exercise its right of first refusal, AHCCCS solicited competitive bids to serve the EPD population. If qualified bidders at an acceptable capitation rate were not found, then AHCCCS provided services directly through its fee-for-service network.

Potential program contractors are required to submit responses to a Comprehensive Service Delivery Plan (CSDP) or Request for Proposal (RFP) issued by AHCCCS. The CSDP is addressed to counties and DES; the RFP is

addressed to other entities bidding for participation in the program. Program contractors must be able to demonstrate their ability to perform in 11 responsibility areas: covered services, case management, provider network development and management, quality management, third-party liability (TPL), share of cost, financial management, data management, member handbook requirements, staff and support services, and grievances and appeals (see Figure II-1). AHCCCS is responsible for eligibility determination and enrollment.

There have been three solicitations since the ALTCS program's inception. These were held just before the first, third, and sixth program years. Participation in the bidding process has increased over time with considerably more interest generated by the sixth program year. The number of public sector contractors doubled during the first six years of the program. Since the beginning of the program, Maricopa and Pima counties have been program contractors for EPD beneficiaries in their counties and DES has been the program contractor for MR/DD beneficiaries statewide. In the third program year, Pinal County became the first non-mandated public entity to participate in the program. In the sixth year, Cochise and Yavapai counties exercised their right of first refusal to become program contractors.

The level of competition among private bidders also increased. Two private entities bid to be program contractors in the first solicitation. Ventana Health Systems (VHS) was selected to serve eight rural counties and Comprehensive AHCCCS Plan (CAP) was selected to serve one rural county. In the next solicitation (FY 91), they were joined by Arizona Physicians Independent Physicians' Association (APIPA), the largest AHCCCS acute care plan, which became a private contractor in one rural county. Five private entities responded to the Year 6 solicitation for EPD contracts in ten rural counties. For the first time, there was at least one bidder in each county. Eight of the ten counties had at least two bidders and three counties had three bidders. Contracts were signed by VHS in eight counties and APIPA in two counties.

Figure II-1

MAJOR AREAS OF PROGRAM CONTRACTOR RESPONSIBILITY

Covered Services

Provide all ALTCS covered services, including acute medical services, long-term care services, and behavioral health services

Case Management

Maintain a case management staff that meets specified staffing ratios

Provide service planning to ensure the delivery of appropriate and cost-effective services to eligible and enrolled members

Determine the appropriate level of care for each eligible and enrolled member

Provider Network Development and Management

Develop and manage an adequate provider network that meets AHCCCS specified minimum network service area standards, including 24-hour, 7-day-a-week emergency services

Quality Management

Maintain a quality management system that includes quality assurance, utilization review, risk management, and continuous quality assessment and improvement activities

Develop and submit an annual quality management plan

Prepare and submit quarterly reports

Third Party Liability

Identify and pursue collection of reimbursement from probable sources of third party liability

Share of Cost

Collect and account for the member's share of cost or have the facility collect" and account for the member's share of cost

Financial Management

Develop an accrual-based financial management and reporting system that meets AHCCCS and HCFA standards

Prepare quarterly and annual financial reports

Data Management

Develop the capability to handle all technical interfaces with AHCCCS

Submit encounter data for all services for which the program contractor incurred any financial liability within timeliness guidelines

Submit required case management data

Figure II-1 (concluded)

MAJOR AREAS OF PROGRAM CONTRACTOR RESPONSIBILITY

Member Handbook Requirements

Produce and provide printed materials to each enrolled member within 10 days of enrollment (information is provided in a second language when 200 members or five percent of the enrolled population speak that language)

Staff and Support Service

Have an organizational and administrative system capable of implementing and overseeing ALTCS contractual obligations

Grievances and Appeats

Have a grievance policy for members and providers that meets specified minimum requirements

Submit quarterly grievance reports

Source: ALTCS Request for Proposal, AHCCCS Administration, April 20, 1993

As private sector participation increased, the number of counties served by AHCCCS' fee-for-service network declined. There were four counties without capitated EPD contractors at the program's inception. This decreased by two in each bid year, so that by the sixth program year there were no fee-for-service counties.

A total of nine entities have been ALTCS contractors. These are five county-based entities and three private entities serving EPD beneficiaries, and one state agency serving MR/DD beneficiaries. Table II-1 presents information on a number of characteristics of the program contractors including the start and end date of their ALTCS participation, affiliations with AHCCCS acute care plans, the number of counties served, and ALTCS enrollment as of July 1995.

Five program contractors provided ALTCS services at the program's inception. Only one contractor has terminated its affiliation with the ALTCS program. More than half of those who have participated are closely affiliated with an AHCCCS acute care plan. These include the EPD contractors in Arizona's two urban counties and all three private contractors. Although the private EPD contractors cover a larger number of counties than the county contractors, the majority of EPD beneficiaries are served by county entities (88% as of July 1995). When the MR/DD population is included, more than 90% of ALTCS beneficiaries (93% as of July 1995) are served by government entities.

Payment

Program contractors receive a monthly capitation payment per enrollee. In bid years, rates for EPD contractors are set through a bidding/negotiation process. Rates are renegotiated for each contract renewal year. Negotiations center on individual components of the rate (e.g., institutional component, HCBS component, acute care component, etc.). The specific methodology for setting these rates has developed over the years, slowly moving toward a system in which more risk is taken on by the program contractors. AHCCCS was

Table II-1

PROGRAM CONTRACTOR CHARACTERISTICS AS OF JULY 1995

	Participation Start	End	Affliated with AHCCCS Plan	Number of Counties	Enrollment
EPD Contractors					
County Contractors					
Cochise County Department of Health Services	11/93	N/A	NO	1	395
Maricopa Managed Care System	01/89	N/A	YES	1	7,545
Pima Health System	01/89	N/A	YES	1	2,080
Pinal County Long-Term Care	10/90	N/A	NO	1	474
Yavapai County Long-Term Care	10/93	N/A	NO	1	522
Private Contractors					
Arizona Physicians IPA	10/90	N/A	YES	2	407
Comprehensive AHCCCS Plan	01/89	12/93	YES	N/C	N/C
Ventana Health Systems	01/89	N/A	YES	8	1,027
MWDD Contractor					
Department of Economic Security	12/88	N / A	NO	15	7,221

N/A Not applicable
N/C Not a contractor

initially concerned about its ability to negotiate cost-based capitation rates because of the lack of data on population groups similar to ALTCS. On the one hand, AHCCCS was sensitive about paying too high a rate. On the other hand, AHCCCS wanted to be sure that capitation rates would be adequate to cover the costs of providing services to beneficiaries. Because of these conflicting goals, AHCCCS attempted to base the initial rates on known costs and provide for reconciliation on items where costs were not clearly known.

In the first three program years, AHCCCS used actual rates negotiated between the program contractors and their subcontracted nursing facilities to calculate the institutional component of the rate to be paid, the largest rate component. If AHCCCS thought that the negotiated nursing home rates were too high, contractors were requested to reduce the rates through the solicitation of best and final offers from their nursing home providers before an award could be made. Several best and final offers were often required. This practice, which was widely criticized by the contractors as being unnecessarily burdensome, was discontinued in the fourth program year. At that time, it was felt that the actual cost of the institutional component was more clearly known, so that contractors could take the risk of negotiating nursing home rates that were within their capitation payment.

For the sixth program year, AHCCCS used a methodology that disaggregated ALTCS capitation rates into 11 cost components: institutional, Medicare/TPL, share of cost, capitation lag factor, HCBS, HCBS/institutional mix, acute care, mental health, case management, administration, and profit. An actuarial range was determined for each of these components by AHCCCS and AHCCCS' actuaries. To determine whether or not a bid was acceptable, AHCCCS compared the proposed rate for each component against the pre-established actuarial rate. If the final submitted bid was within the range, the component was awarded at the bid price. If the final submitted bid was above the upper limit of the range for a given component, AHCCCS awarded the midpoint of the rate range for that component. Bids that fell below the lower limit of the range for a component were awarded the lower limit of the rate range for that component. The 11 components were then added to derive the total capitation rate paid to the contractor.

Contractor Performance

To become program contractors, entities need to show that they have the ability to implement and manage their ALTCS responsibilities. To be effective, contractors need to perform these responsibilities efficiently. Two of these responsibility areas, the development and management of provider networks and the development of management information systems, are discussed below.

ALTCS contractors must develop and manage delivery systems that cover three basic types of service providers: long-term care facilities, HCBS providers, and acute care service providers. Having a full range of services enables contractors to serve beneficiaries at the lowest appropriate level of care. One challenge has been the development of HCBS provider networks in rural areas. Long travel distances, ineffective public transportation, and limited availability of some types of HCBS providers make HCBS provision in rural areas problematic. Despite these obstacles, there have been consistent improvements in the availability of ALTCS HCB services.

In procuring providers, county contractors and DES are required to follow procurement rules for government entities as specified by state law and by their own counties. These procurement codes require that they use a competitive bid process for selecting most service providers. The major exceptions to this requirement are for contracts with other entities within the county government; services for which there is only one vendor in the county; and, in some counties, for professional services.

Arizona did not experience a shortage of nursing home beds during the study period. Nonetheless, to provide adequate bed capacity, program contractors routinely contracted with almost all of the licensed facilities in their areas. Procurement of HCBS providers was limited by supply, especially in rural areas. All five county contractors and DES procured long-term care facilities and HCB services through competitive bid processes. Private contractors normally negotiated for these services.

A program contractor has several options for establishing an acute care network. It may contract directly with providers (e.g., primary care services, specialist services, transportation, laboratory, etc.) or it may subcontract with one entity that will in turn set up a comprehensive acute care network. Most contractors elect to set up their own networks. The private contractors negotiate with physicians in the AHCCCS acute care networks of their affiliated plans to provide services to ALTCS beneficiaries. Maricopa Managed Care System (MMCS) negotiates contracts for the provision of primary care physician (PCP) services to nursing home residents. Pima Health System (PHS) did the same thing until July 1993 when it was required by Pima County to adopt a competitive bid process. PCP services for Pima County HCBS beneficiaries are obtained through interagency agreements.

The three rural county contractors each initially issued an RFP seeking an entity to provide acute care services to its ALTCS beneficiaries. During its first two years of operation, Pinal County Long-Term Care (PCLTC) contracted with one of the AHCCCS acute care plans, but thereafter established its own acute care network through a competitive bid process. Cochise County Department of Health Services (CCDHS) had several responses to its acute care solicitation and awarded a contract to a for profit corporation affiliated with the AHCCCS acute care program. Yavapai County Long-Term Care's (YCLTC) solicitation did not attract any qualified bidders, necessitating the negotiation of individual contractual arrangements.

DES uses a competitive bid process to select multiple health plans in each county. All health plans selected have been AHCCCS acute care participants. When no health plan has an acceptable bid for a county, DES will arrange for services through a fee-for-service provider network.

Program contractors have flexibility in choosing a method for paying providers. Arrangements described below are those that were in effect as of January 1994. Payment methods for institutional services, HCB services, and inpatient hospital services were consistent across the program contractors. Nursing facilities received a per diem amount based on the client's level of care. HCB services were reimbursed on a per unit basis. Maximum

reimbursement amounts for inpatient hospital stays are set by AHCCCS in its fee-for-service program using a tiered per diem reimbursement system. Because the program contractors were not able to negotiate lower rates with hospitals, contractors paid hospitals the AHCCCS defined per diem rate for inpatient hospital stays.

Capitated arrangements were established by many contractors to pay for acute care services, especially for primary care. Two contractors, CCDHS and DES, had subcontracted risk arrangements with a single entity. Payment for primary care and specialist services was incorporated into the monthly capitation paid to their subcontracted acute care plans. CCDHS' subcontractor transferred some of this risk to its providers by capitating most of the PCPs with whom it had contracts.

The two private contractors and two rural county contractors (PCLTC and YCLTC) set up capitation arrangements with most of their PCPs, with the balance receiving payment on a fee-for-service basis. Specialist services, however, were paid on a fee-for-service basis.

Capitation arrangements were not as prevalent among the two urban county contractors, MMCS and PHS. This was especially true for MMCS. Physicians who provide primary care services to MMCS nursing home beneficiaries were paid an hourly rate. Primary care provided to HCBS clients was reimbursed on a fee-for-service basis. PHS' nursing home PCPs were paid a flat rate per month regardless of case load or number of hours worked. The majority of HCBS clients received primary care through a clinic at Kino Community Hospital, the county-owned hospital. The physician who staffs this clinic received a monthly capitation payment per enrollee. PHS also paid two different kinds of facility fees for services provided at this clinic: a monthly capitation payment per enrollee and a fee-for-service payment for facility charges associated with each patient visit. Both counties paid for specialist services on a fee-for-service basis.

Contractors require good information systems to provide the management functions envisioned by the AHCCCS program and to generate the required data

and reports. These data are critical to assuring that services are delivered appropriately and cost-effectively. There was substantial variation in the extent to which contractors successfully implemented management information systems that provided accurate and timely data for internal and external use. Some contractors appeared to have fairly sophisticated systems and indicated that they use data internally in their operations and planning. Others, most specifically DES, experienced substantial problems in their management information systems. These problems caused difficulties in the reporting of case management and service utilization data to AHCCCS.

Coordination with Medicare

Approximately 5% of AHCCCS acute care beneficiaries, almost 90% of ALTCS EPD beneficiaries, and approximately 20% of ALTCS MR/DD beneficiaries are eligible for Medicare, which covers most acute care services and some long-term care services. Medicare is the first payer for any service that it covers. All AHCCCS providers are required to bill Medicare for Medicare-covered services before submitting a claim to the program contractor. AHCCCS will deny a claim for Medicare-covered services for a beneficiary with Medicare coverage indicated in the member files that does not have an attached Medicare Explanation of Medical Benefits.

The major issues of concern to the program contractors and AHCCCS are coordination of care and reimbursement for those AHCCCS enrollees who have joined a health maintenance organization (HMO) receiving reimbursement from the Health Care Financing Administration (HCFA) on a risk-basis. In AHCCCS, the beneficiary's PCP (and case manager in ALTCS) is responsible for the development of a care plan. The problem that arises for persons enrolled in both a Medicare HMO and AHCCCS is that they can have two individuals or entities managing their care. In a situation in which an enrollee has two PCPs, lack of coordination or disagreement between the two may have a negative impact on quality of care. Moreover, this situation is often confusing for beneficiaries who may not understand the different rules and services associated with each source of care.

In addition to care coordination issues there are serious problems regarding reimbursement. Under the current federal rules, Medicaid HMOs are not able to recover third-party payments from Medicare for Medicare services that are provided to Medicare beneficiaries enrolled in risk-reimbursed Medicare HMOs. AHCCCS service providers who bill Medicare expecting to collect payment for a service will have their claim rejected for a beneficiary enrolled in a Medicare HMO. Thus, the provider is left without reimbursement.

If these members and their Medicare HMOs can be identified, contractors could attempt to coordinate hospital admissions and other Medicare-covered services. However, this kind of coordination has proved to be very difficult due to the problems of the timely sharing of current member rosters. Federal law allows an individual to disenroll from his or her Medicare HMO with only thirty days notice, so that the list of those AHCCCS enrollees currently enrolled in Medicare HMOs is constantly changing.

In April 1994, AHCCCS requested from HCFA a waiver under Section 1395(b)(l) of the Social Security Act to address this issue. After discussions with HCFA, a revised waiver proposal was submitted in November 1995. AHCCCS proposes to offer dually-enrolled Medicare HMO/AHCCCS beneficiaries three options.

(1) Receive Medicaid services through an AHCCCS plan or contractor, and receive Medicare services through fee-for-service Medicare providers or Medicare HMOs.

(2) Receive Medicaid and Medicare services through an AHCCCS plan or contractor which is also certified as a Medicare HMO.

(3) Receive Medicaid and Medicare services through an AHCCCS plan or contractor. This option would allow the AHCCCS plan or contractor to provide Medicare services to AHCCCS beneficiaries without becoming certified as a Medicare HMO.

Under all three options, neither AHCCCS nor the AHCCCS plans or contractors would pay any Medicare cost sharing if the beneficiary receives Medicare services out of the plan's or contractor's network, except for Medicare services that are not covered by the AHCCCS program. As of November 1995, the waiver had not been approved.

Lessons Learned

Although implementation of an ALTCS-type model for organizing and paying for services for long-term care beneficiaries requires the participation of entities ready to manage service delivery across the state, states considering similar programs should not be deterred by an initial modest show of interest. ALTCS experience indicates a growing interest in participation by both public and private entities as the program and its risks are better understood.

As interest grows, more competition can be introduced into the process. After six years, private sector entities in Arizona are actively seeking more opportunities to participate and have lobbied for changes in legislation that would remove the county's right of first refusal and open urban counties to more than one successful bidder. Recent legislation adopted in July 1995 has moved in this direction by restricting the county's right of first refusal to the five counties already participating in the program. Pressures of this type will continue and will likely result in more competition in the marketplace.

Program contractors are required to fulfill the contractual requirements outlined in the CSDP or RFP. It is important in committing resources that contractors in a prepaid, capitated environment strike a balance between costs allocated to service delivery and those to support the administrative structure that assures that services are delivered appropriately and cost-effectively. While there has been successful development of provider networks and improved availability of appropriate services, some entities did not always devote enough resources to infrastructure investments, especially for internal management information systems. The development of a good data system is especially critical for decision making in a managed care environment.

ALTCS contractors are responsible for delivering integrated long-term care and acute care services to program beneficiaries. In order to accomplish this within their defined capitation payments, contractors must have efficient methods to subcontract for the actual provision of services. One constraint

is **the county and state procurement** codes in Arizona, which require that public contractors use competitive bidding to procure most services. This requirement is perceived by public contractors as adding undue burden to the procurement of services when such services are in very limited supply. States considering implementing similar models that will have public sector contractors may want to seek waivers of such state requirements.

Public contractors bring with them a predetermined set of providers and infrastructures, and have incentives to use them to deliver care to their clients. This can benefit a new program in that they provide a preexisting infrastructure for program implementation. On the other hand, these infrastructures may not be cost-effective. States need to recognize that dealing with other government entities presents certain challenges and should carefully consider how to deal with these entities in a way that maximizes their cost-effectiveness in a managed care system.

ALTCS contractors generally adopted competitive, managed care approaches to paying PCPs, although providers other than PCPs were typically paid using traditional methods. It is interesting to note that many of the ALTCS contractors are familiar with the Medicaid managed care model from their experiences in the AHCCCS acute care program, and the mechanisms used to pay physicians in ALTCS mirror the way they are paid in the acute care program. Given that capitation arrangements are not incorporated into the payment for long-term care providers, what sets this Medicaid long-term care program apart from traditional ones is the bundling of acute and long-term care into one capitation payment and the presence of an intermediary, the program contractor, to manage the cost-effective delivery of services within an overall budget.

Dual enrollment in AHCCCS and a Medicare HMO creates problems with both coordination of care and payment for services. Involvement with two HMO systems at the same time can negatively impact the quality of care received and create problems relating to equitable reimbursement. This may be **especially true for elderly individuals and those at risk of institutionalization.** This issue is not unique to AHCCCS, but is a national

problem that affects all Medicaid managed care systems and will become increasingly significant as more states move to implementing Medicaid managed care programs for beneficiaries with Medicare coverage. Administrative or legislative federal activity in this area is warranted.

Method of Setting Capitation Payments

Background

Developing payment rates that are accurate, fair, and provide the desired incentives for efficient behavior is a difficult problem for any health care program. This is especially true for a program such as ALTCS, which serves a high-cost population and capitates participating program contractors.

Capitation financing has some distinct advantages over other reimbursement methods. With prepaid capitation, reimbursement rates are fixed and known in advance. This leads to more accurate revenue forecasting for program contractors. Capitation financing shares the risk between the entity that gives the capitation and the one that receives it. While the capitating entity has risk for the number of people who are eligible for the program, the capitated entity has the risk for providing a set of defined services to each eligible person within the capitation rate. Because those eligible for ALTCS have been prescreened and determined to be at risk of institutionalization, a system using a capitation payment for each eligible should provide incentives for program contractors to create an efficient delivery system.

The accuracy of capitation rates is a key concern for an ALTCS-type program. Problems are associated with both overpayment and underpayment of program contractors. If capitation rates are set too high, the incentives for cost containment by program contractors are undermined. Some contractors make windfall profits, which jeopardize the credibility of the program. If capitation rates are set too low, the contractors experience substantial financial losses, leading to the bankruptcy of private entities and

substantial budget problems for public sector operations. This in turn can lead to disruption of service to program eligibles. Capitation rates that do not cover costs also increase pressures for underprovision of services.

Major Evaluation Issues and Findings

Issues and findings regarding the setting of capitation payments are discussed separately for the EPD contractors and for DES, the contractor for the MR/DD. Following these discussions, the financial experience of the contractors is reviewed.

EPD Contractors

In the ALTCS program, participating contractors receive a fixed monthly payment for each enrollee. The monthly capitation payment is a blended rate, a weighted average of the projected long-term care costs for institutionalized patients and for users of HCB services. Added to this weighted average cost of long-term care services are the estimated costs of acute care services, mental health services, case management, and administration.

First Year Rates

Before the EPD program began in 1989, AHCCCS recognized that setting capitation rates for the EPD population would be difficult due to its high-risk nature and the lack of adequate data on experience. In addition, AHCCCS was concerned that setting an all-inclusive capitation payment without constraints would invite underprovision of services. Despite these early identified problems, an important objective of the ALTCS program was to put contractors at risk with prospectively-set capitation payments for a full range of acute and long-term care services, as soon as possible.

In the development of the first year rates, AHCCCS desired to maintain control over the major components of the capitation rate. The absence of historical cost data was a major problem. AHCCCS knew that inaccurate capitation rates, either too large or too small, could seriously jeopardize the program. HCFA, representing federal government interests, was concerned about the potential for out-of-control HCBS costs. To satisfy that concern, a cap was placed on the amount of HCBS use by the EPD population that would be reimbursed by the federal government. The cap was initially imposed by HCFA because of concern that the PAS tool would not effectively target people at risk of institutionalization, and thus would enable low-risk clients to receive HCB services. HCFA was also concerned that the unlimited availability of HCB services would encourage people with activity limitations, who would otherwise be unwilling to be admitted to a nursing home, to apply to the program and receive HCB services.

AHCCCS' initial rate-setting method was built around four components: 1) institutional costs, 2) HCBS costs, 3) the HCBS/institutional mix, and 4) other costs (case management costs, acute care costs, administrative costs, and profit). The institutional component of the capitation rate was the actual rates that the contractors had negotiated with their nursing home providers, adjusted for estimates of Medicare and TPL recoveries, patient share of cost, and therapies. HCBS costs were based on prior year HCBS costs for Maricopa and Pima counties, and estimates of HCBS costs for the other contractors. An HCBS/institutional mix assumption negotiated with each contractor was used to weight these two costs to calculate the weighted average rate. Thus, AHCCCS had control through the institutional mix assumption in the capitation rate on the number of HCBS users, addressing HCFA's concern about control over this number. After the weighted average rate was calculated, additional amounts were added for case management, acute care, administrative costs, and profit.

Because of the absence of data to set capitation payments in the first year of the program, estimated institutional adjustments (Medicare/TPL recoveries, patient share of cost, and therapies) were reconciled to actual costs. In addition, HCBS costs and the HCBS mix were also reconciled to

actual experience. These reconciliations occurred retrospectively after the end of the contract year.

FY 90 - FY 94

Although the same basic rate setting framework was used from FY 90 to FY 94 as was used in FY 89, there were some changes in specific components included over the years and in the components upon which reconciliations were done. In FY 90, the therapies component was excluded from the institutional rate adjustment because first year experience indicated it was not a substantial expense. A capitation lag amount was added to the EPD contractors institutional adjustments in FY 90 and mental health services were added in July 1993. Before FY 94, the institutional component rate was based on contracted nursing home rates, the HCBS component rate was based on historical costs, and the mix assumption was based on historical experience and the program wide HCBS cap. The other components were estimated based on prior experience.

ALTCS imposed a minimum spending level for HCB care in FY 90 and FY 91. If a contractor spent less than 90% of the HCBS budgeted amount, AHCCCS recouped the difference between the actual HCBS expenditures and 90% of the budgeted amount for HCB services in the capitation rate developed for that year and contractor. No spending floors were imposed for later years.

From FY 90 to FY 94, the number of users of HCB care was reconciled to the HCBS mix assumption. If the actual number of HCBS users exceeded the mix assumption, AHCCCS recouped the difference between HCBS capitation and institutional capitation for the HCBS users that exceeded the contractor's cap. In the second year of the program, FY 90, the capitation rate was adjusted midway through the contract year to take into account the number of actual HCBS users for each contractor. In FY 92 and FY 93, the reconciliation permitted contractors to exceed the mix assumption by 0.5 percentage points before the difference was recouped, as an incentive to encourage contractors to place more eligibles in HCB care. In FY 94, AHCCCS permitted contractors

to exceed the mix assumption by as much as 3.0 percentage points before all excess funds were recouped. If the actual mix exceeded the mix assumption by Up to 0.5 percentage points, all excess funds were kept by the contractor. Between 0.5 and 3.0 percentage points, the excess funds were shared on a sliding scale by the contractor and AHCCCS. Above 3.0 percentage points, all excess funds were recouped by AHCCCS.

By FY 94 the contractors were preparing specific bids for each of the components of the capitation rate and these bids were compared against rate ranges developed by AHCCCS-contracted actuaries. These specific components are numbered (1) through (11) in Figure 11-2. If the component bid rate was within the rate range for that component, the contractor was awarded the bid price for that component. If the component bid rate was above the rate range for that specific component, the contractor was awarded the midpoint of the range. Component bid rates below the rate range were awarded the floor of the rate range for that component. The compcnent rates awarded were then added to get the monthly capitation payment.

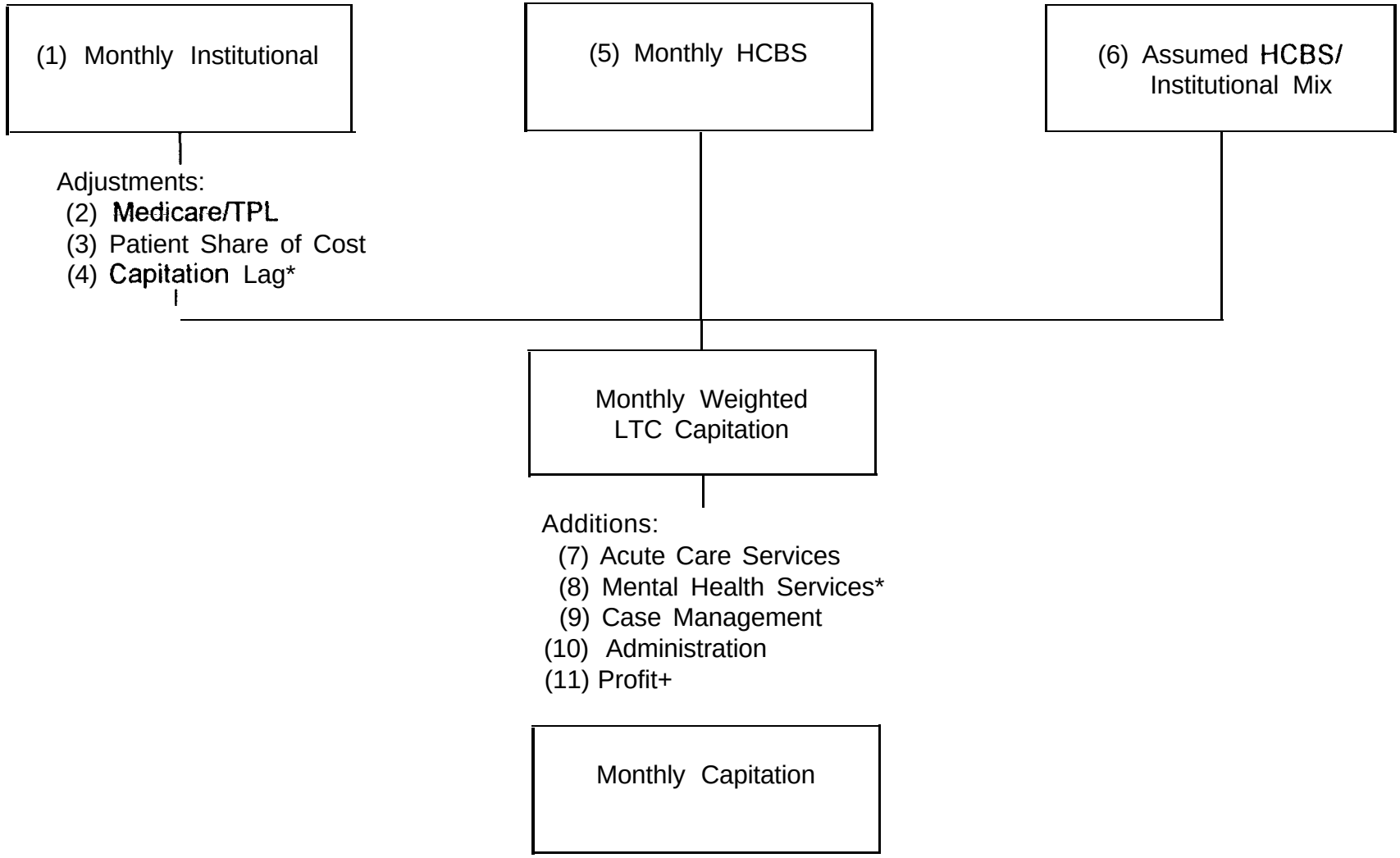
As discussed earlier, beginning in FY 94 the institutional component rate was not based on contracted nursing home rates. The adjustment for the mix of institutional and HCBS care would permit the HCBS mix to exceed the assumed rate by as much as three percentage points before excess funds (i.e., the difference between institutional and HCBS rates) would be recouped by AHCCCS. This was to provide an incentive to the contractors to serve beneficiaries in HCB care. Retroactive adjustments were planned for the mix assumption, mental health services, and patient share of cost.

Table II-2 summarizes the EPD capitation rates for FY 90 to FY 94. The increase in the proportion of HCBS users over time acted to hold down increases in the capitation rates. Separate payments were made for ventilator dependent clients.

In summary, the initial approach used by AHCCCS to set FY 89 EPD capitation rates was: to tie institutional costs to contracted nursing home rates; to reconcile some of the more unpredictable items (i.e., HCBS costs,

Figure II-2

DERIVATION OF FY 94 CAPITATION RATES



* EPD contractors only
+ Private contractors only

Table II-2

SUMMARY OF EPD CAPITATION RATES, FY 90 - FY 94

Contractor	FY 90	FY 91	FY 92	FY 93	FY 94
Arizona Physicians Independent Physicians' Association	N/C	$1,868.95	$1,879.09	$1,868.40	$1,875.76
Comprehensive AHCCCS Plan	$1,666.16	1,918.71	2,019.85	2,048.80	N/C
Cochise County Department of Health Services	N/C	N/C	N/C	N/C	1,946.33
Maricopa Managed Care System	1,661.58	1,891.19	1,942.99	1,998.36	1,986.28
Pinal County Long-Term Care	N/C	1,776.24	1,946.53	1,948.00	1,946.93
Pima Health System	1,681.28	1,887.92	1,984.52	2,060.77	2,064.58
Ventana Health Systems	1,604.23	1,862.24	1,858.89	1,863.26	1,851.98
Yavapai County Long-Term Care	N/C	N/C	N/C	N/C	1,917.67

N/C Not a contractor

Medicare/TPL, patient share of cost, therapies) to actual cost experience; and to make reasonable estimates for case management costs, acute care costs, and administrative costs. This approach ensured that actual costs would be very close to revenue received by the program contractors. Over the next five years, AHCCCS moved to set prospective capitation rates that would include fewer retrospective adjustments. Although some components were still subject to reconciliation in FY 94 (i.e., the HCBS/institutional mix, the mental health services cost, and patient share of cost), the number of such adjustments has declined considerably over time. By FY 94, reimbursement to EPD contractors was based essentially on prospectively-set capitation rates.

MR/DD Contractor

FY 89 - FY 92

Federal reimbursement for MR/DD eligibles is passed directly from HCFA through AHCCCS to DES. Prior to implementation of the ALTCS program, negotiations were held between HCFA, AHCCCS, and DES to determine HCFA payment rates for MR/DD beneficiaries. The capitation rate for long-term care beneficiaries consists of amounts to cover acute care and long-term care services. For FY 89, HCFA agreed to pay an interim per diem rate for long-term care services that differed by the level of care received by the MR/DD client. The payment rates for the different levels of care were: $130.89 per day for skilled nursing facility (SNF) care; $47.86 per day for intermediate care facility (ICF) care; $213.03 per day for intermediate care facility for the mentally retarded (ICF/MR) care; and $54.46 per day for HCB care. Approximately 95% of all MR/DD eligibles are in the fourth level of care. This payment rate for long-term care services included amounts for case management, therapies, and other administrative expenses. The per member amount in the capitation payment for acute care services was:

December 1988 - December 1989	$148.18 per month
January 1990 - September 1991	$135.32 per month
October 1991 - September 1992	$152.14 per month

It was also agreed that DES would conduct an audit of the FY 89 data, and there would be a reconciliation of the interim HCFA reimbursement rates to the actual costs incurred by DES for MR/DD beneficiaries. The agreement between HCFA and Arizona stipulated that AHCCCS would furnish audited expenditure data to HCFA within six months after the end of the first program year. HCFA would recover surplus reimbursements within six months following the date of availability of those data. The audit was delayed, and the FY 89 interim rates were used for reimbursement in FY 90, FY 91, and FY 92.

The audits for DES expenditures on ALTCS MR/DD beneficiaries in state fiscal year 1989 (SFY 89) and SFY 90 were completed in the summer of 1992. The negotiations between HCFA and Arizona regarding the financial reconciliation required for MR/DD eligibles for SFY 89 and SFY 90 were completed in October 1992. The financial reconciliation for SFY 91 was completed by Arizona and submitted to HCFA in November 1993. The reconciliation for SFY 92 was completed in January 1994. Reconciliation was done on all components of the MR/DD capitation rate for FY 89 through FY 92.

FY 93 - FY 94

Prospective FY 93 rates for MR/DD eligibles were agreed to by HCFA and Arizona in October 1992. The long-term care component of these rates was based primarily on data on the actual costs experienced for MR/DD beneficiaries in FY 90, inflated to FY 93. The acute care component of the FY 93 rates was based on the FY 92 rates paid by DES to health plans that provided acute care services to MR/DD beneficiaries. DES also received a five percent allowance for administrative costs. No reconciliations were done for FY 93 or the following years. For FY 93, the DES rate for MR/DD eligibles was $2,511.87 per member month (See Table 11-3).

The framework for development of the FY 94 MR/DD capitation rate was the same as that used for EPD program contractors (see Figure 11-2) except that there were no components for capitation lag, mental health services, and profit. The average institutional per diem rate was based on the audited

Table II-3

MWDD MONTHLY CAPITATION RATES, FY 89 - FY 94

	CAPITATION RATE
FY 89	Varies by level of care (SNF, ICF, ICF/MR, HCBS) HCBS level = $1,803.71
FY 90	Varies by level of care (SNF, ICF, ICF/MR, HCBS) HCBS level = $1,803.71(9/89-12/89) $1,790.90 (I/90-9/90)
FY 91	Varies by level of care (SNF, ICF, ICF/MR, HCBS) HCBS level = $1,790.90
FY 92	Varies by level of care (SNF, ICF, ICF/MR, HCBS) HCBS level = $1,807.72
FY 93	$2,511.87
FY 94	$2,370.07

SFY 92 DES financial reports for the three levels of institutional care: SNF, ICF, and ICF/MR. The HCBS/institutional mix was based on placement information recorded in the Client Assessment and Tracking System (CATS) for SFY 92. The HCBS per member month rate was based on SFY 92 audited costs and CATS days. An allowance for administrative costs of 7.6% was incorporated into the capitation rate. The acute care rate was based on the average rate paid by DES to its subcontracted acute care health plans for FY 94, adjusted for the cost experience of MR/DD beneficiaries who received acute care services on a fee-for-service basis. In total, the DES rate for MR/DD eligibles for FY 94 was $2,370.07 per member month.

Financial Experience of the Contractors

A key issue for the evaluation is whether the ALTCS program contractors are able to provide required services within the capitation revenues that they receive. Data on revenues, medical expenditures, administrative costs, and other financial performance indicators are analyzed for each program contractor. The following table summarizes the net income per member month of the EPD program contractors after reconciliations from FY 89 to FY 92:

	FY 89	FY 90	FY 91	FY 92
APIPA	N/C	N/C	$58.67	$290.39
CAP	$208.12	$216.92	235.73	183.90
MMCS	176.49	44.81	28.59	(26.47)
PCLTC	N/C	N/C	162.70	180.57
PHS	91.24	(14.35)	(147.99)	(38.51)
VHS	48.69	82.46	75.38	117.19
Total	135.50	40.49	9.03	11.80

N/C contractor was not participating in given year

The two largest EPD contractors, MMCS and PHS, experienced declining profitability after the first year of the program. In FY 92, MMCS had a loss of $26.47 per member month (1.1% of revenues per member month), and PHS

experienced a loss of $38.51 per member month (1.6% of revenues per member month).

For the other EPD contractors, each year was profitable and net income per member month remained at similar levels throughout the first four program years. For FY 89 to FY 92, net income as a percentage of revenues for the other contractors was 9.7% for APIPA, 9.6% for CAP, 7.9% for PCLTC, and 4.4% for VHS.

For all EPD contractors combined, net income per member month declined from $135.50 (6.8% of revenues) in FY 89 to $40.49 (2.0% of revenues) in FY 90, $9.03 (0.5% of revenues) in FY 91, and $11.80 (0.5% of revenues) in FY 92. For the first four years of the program combined, net income of the ALTCS EPD program contractors was $11.6 million (1.6% of revenues).

DES, the MR/DD contractor, had an excess of revenues over expenditures after reconciliation of $23.06 per member month for FY 89 and a loss of 4133.14 per member month for FY 90. For FY 91 and FY 92, there were net gains of $14.22 per member month and $63.80 per member month respectively. For the first four years of the program, DES had a slight excess of expenditures over revenues of $36,890.

In general, the ALTCS program contractors were able to provide services within the capitation revenues that they received over the first four program years. The favorable financial results are due, in part, to the ALTCS method of setting capitation payments. In the face of much uncertainty and the absence of reliable data, the ALTCS rate-setting method ensures that capitation revenues would closely approximate the expenditures that would be incurred by program contractors. In addition, if a contractor is effective in organizing and delivering services, then savings or modest profits are within its reach. However, if a contractor exceeds the projected budget amounts or incurs greater than expected administrative costs, then financial losses are experienced.

Lessons Learned

This section summarizes the lessons learned from the EPD experience (i.e., capitating counties and private entities) and the MR/DD experience (i.e., capitating a sister state agency).

EPD Experience

To overcome problems associated with a lack of data as well as to equitably share the substantial risk involved in an ALTCS-type program, Arizona used a method that closely controlled major components of the capitation amount and the actual costs of long-term care services, and the mix between institutionalized patients and HCBS users. The EPD rate-setting methods were revised and refined over the first six years of the ALTCS program as the program matured. The ALTCS capitation framework permits Arizona to modify the method annually to build in additional incentives or to adjust various components in the overall capitation rate to reflect recent experience. Thus, the ALTCS rate-setting process provides flexibility to Arizona in attempting to determine accurate and fair payment rates for the long-term care contractors.

Conceptually, the EPD contractors have been capitated since the beginning of the ALTCS program, even though selected rate components were reconciled to actual costs in each contract year. However, the amount of reconciliation of the capitation rates to actual costs was much greater in the beginning of the program. Other states considering an ALTCS-type program should consider when it is appropriate for program contractors to be at full risk with prospectively-determined capitation payments. Retrospective adjustments can be used to reduce a contractor's financial risk if appropriate with full-risk capitation being phased in over time.

To avoid underutilization, ALTCS imposed a minimum spending level for HCB care in FY 90 and FY 91. If a contractor spent less than 90% of the HCBS budgeted amount, AHCCCS recouped the difference between actual HCBS

expenditures and 90% of the budgeted amount for HCB services in the capitation rate. The minimum spending level also encouraged contractors to develop HCBS networks in areas where services were lacking. This sort of incentive should be considered by states especially in areas having underdeveloped HCBS networks.

States need to consider the incentives built into alternative capitation rate-setting methods in order to develop a method that meets their objectives. In addition to accuracy, equity, and flexibility considerations, states need to develop appropriate mechanisms for sharing the financial risk inherent in an ALTCS-type capitated long-term care program, while at the same time maintaining or enhancing the cost containment features of the program.

The number of rate categories is another key decision for states that might be considering an ALTCS-type program. AHCCCS developed a blended rate methodology based on the expected mix of institutional and HCBS clients. Separate payments are made for ventilator dependent clients. An alternative approach would be to develop separate rate categories defined by the type of client (e.g., institutionalized patients, users of HCB services, etc.), functional/need levels, and other characteristics of long-term care users that are expected to result in different levels of utilization and cost. In this way, the capitation rates would reflect the expected costs for each component of cost (e.g., long-term care, acute care, case management, administration, etc.) for each of these groups. The major disadvantage of this alternative approach is that compared to the ALTCS blended rate methodology, it would lessen the incentives for contractors to place clients in less expensive settings (i.e., HCB care).

Whether the state wishes to control individual components of the capitation rate is another decision to be considered. AHCCCS uses 11 components in the capitation rate, which it individually controls. Another option would be to hold the contractor responsible only for the bottom line capitation payment.

The importance of data for capitation rate setting cannot be overemphasized in an ALTCS-type program. Relevant historical data were not available to set capitation rates at the beginning of the program in 1988. Originally, AHCCCS based capitation rates on contracted nursing home rates and estimates for other components, many of which were reconciled to actual cost experience. By 1993 AHCCCS had developed a substantial database that was used in setting the FY 94 capitation rates. The database included: 1) cost data from audits and financial reports submitted by program contractors, 2) encounter data submitted by contractors on health service utilization, 3) nursing home cost data, and 4) the results of actuarial and research studies on selected rate components. It took AHCCCS five years to develop an adequate database for setting capitation rates for program contractors. To implement an ALTCS-type program, states need to understand the importance of such data. They must start data development efforts at the very beginning of the project. Investment in these kinds of activities at early implementation stages time is difficult but critical to the long-term viability of the program.

MR/DD Experience

There are several unique features of rate setting for MR/DD eligibles that have policy implications for other states. DES is a sister state agency to AHCCCS in Arizona. DES' budget is determined by the legislature independently from the AHCCCS budget. Although DES receives the federal share of expenditures for MR/DD eligibles from AHCCCS, the overall budget for MR/DD eligibles is controlled by DES. At the beginning of the program, DES officials took an active part in the negotiations between HCFA and Arizona over the MR/DD component of the ALTCS program, whereas EPD contractors were never involved in negotiations with HCFA. In addition, the Division of Developmental Disabilities in DES had operated a state 'program for MR/DD clients for many years prior to the implementation of ALTCS. Therefore, DES had an existing set of clients and an existing provider network. Although former state clients became ALTCS clients, DES continues to operate a state-only program for individuals who do not qualify for ALTCS eligibility.

The process of developing capitated payment rates for MR/DD eligibles was delayed substantially from the original plans because DES was not able to provide audited financial results to HCFA due to their poor management information systems. This inability on the part of DES to provide cost information to HCFA raises serious questions about the desirability of beginning a program without having adequate data systems in place. Data systems are necessary to support a capitated program so that costs can be known and so that accurate and fair capitation rates can be determined. States' ability to impose these requirements on sister state agencies may be limited.

Preadmission Screening, Level of Care Determination, and Use of Home and Community-Based Services

Background

Arizona sought to limit its long-term care spending in the ALTCS program by diverting clients from institutional settings into HCB services. This idea has been tried many times before for both EPD and MR/DD populations. Cost-effectiveness has been extensively studied over many years in the EPD population and has produced nearly universally disappointing findings: overall spending goes up, patient benefits 'are few, and those served in HCBS tend to be at low risk of institutionalization. HCBS typically has been used as a complement to institutional care, not a substitute.[3,4] Cost-effectiveness of HCB services for the MR/DD population has not been studied as extensively.

With the ALTCS program, Arizona brings several new features to its approach to providing a continuum of long-term care services and settings. One is capitation. Prior to the ALTCS demonstration, no state had agreed to capitate its long-term care program. Even the Social Health Maintenance Organization (SHMO) demonstration project, which entered into capitation agreements with HCFA, placed severe limitations on its liabilities: capping overall costs of long-term care for which it would be responsible; limiting enrollment of those judged to be at high risk of institutionalization; and in

some cases encouraging disenrollment by expensive clients who had used up their SHMO benefits. Although it sought to keep overall costs low by diverting clients to HCBS, the SHMO projects demanded that they be paid an institutional capitation rate on clients who they judged to be at high risk of institutionalization, even though past efforts to identify such clients had typically produced many false positives.

ALTCS accepts full risk for its state share of each long-term care client's Medicaid expenses and pays its contractors a capitation rate that assumed increasingly heavy use of HCB services. By setting the capitation rate below the institutional care price, pressure is put on the contractors to use HCB services in lieu of institutional care.

Another innovative feature is the scope of the ALTCS enterprise. While some states place more than 90% of their MR/DD clients in ICF/MRs, Arizona's state policy has been to severely restrict ICF/MR admissions, diverting more than 95% of their MR/DD clients into HCBS settings. With this policy already translated into practice before ALTCS' inception, ALTCS was able to take the bold stroke of capitating payments for both EPD and MR/DD long-term care clients.

HCFA imposed two major constraints on the state's enthusiasm for HCB services. First it limited the percentage of EPD clients who could be served in HCBS settings. This was intended to prevent clients unlikely to enter nursing homes from becoming HCBS users. A cap was initially imposed that limited HCBS spending to an amount not to exceed five percent of all EPD long-term care spending. Later the cap was translated into a percentage of long-term care beneficiaries. ALTCS pressed each year to have the cap raised above the previous year. HCFA accommodated, slowly at first, then more expansively after preliminary findings indicated that HCBS use was cost-effective. By FY 95, the EPD HCBS cap had been raised to 40%. No cap was imposed on HCBS use by MR/DD clients since state policy and practice dictated that most clients would be served in HCBS settings.

A second constraint imposed on the ALTCS program by HCFA related to eligibility screening. HCFA insisted that eligibility determination be made

by state representatives rather than the contractors who would be responsible for caring for eligible clients. This insistence was intended to remove any conflict of interest that might arise if a contractor had control over who it would be required to serve. Arizona opted to set up regional field offices staffed by nurses and social workers who would assess applicants and determine their eligibility for ALTCS. HCFA also required that these state staff determine the level of institutional care at which an eligible client qualified. Once eligibility was determined, it was up to the contractor, in consultation with the client, and the client's family, to choose an appropriate setting - institutional or HCBS, and if institutional, the level of institutional care (intermediate care or one of two skilled care levels). Regardless of-the level at which clients were actually placed, contractors were paid at a weighted average rate for the contractor that reflected the mix of levels of care required by the contractor's clients. If a contractor placed more clients in higher levels of care than the assessment teams judged them to need, contractor costs would exceed the rate paid to them by ALTCS.

In short, contractors are under pressure to serve high risk clients efficiently. Pressure can be relieved only if the state's assessment teams engage in behavior favoring the contractors: admitting clients at little risk of institutionalization or making level-of care determinations at higher levels than those at which they could be served. There seems to be no obvious incentives for state assessors to take these actions. Contractors might keep their expenses down by pushing into home care clients who should be institutionalized, but that would probably lead to family complaints, adverse outcomes, and perhaps hospitalizations. ALTCS contractors are at risk for acute care services including hospital care of their clients. Clearly the program's design does much to encourage efficiency.

Major Evaluation Issues and Findings

The evaluation examines several issues related to selection of clients into the ALTCS program, their placement between institutional and non-

institutional settings, and availability of non-institutional settings. Specific questions addressed are:

(1) Is ALTCS limiting eligibility to clients who appear to be at high risk of institutionalization?

(2) Do level of care determinations systematically discriminate higher from lower need clients and result in appropriate placements?

(3) What HCB and alternative housing settings are used by ALTCS EPD and MR/DD clients, and does availability differ between urban and rural areas?, and

(4) Does the ALTCS program spend more with the HCBS option than it would spend without it?

Effectiveness of the Preadmission Screenins Process: Does it Restrict Eligibility to Hiqh Risk Clients?

Is the PAS Instrument Effective?

The evaluation team examined the development of the ALTCS PAS instrument to judge the extent to which it reflected assessment items and decision criteria consistent with state-of-the-art thinking on assessment tools used in eligibility determination. Although the evaluation team found that some (subsequently revised) domains of the instrument were highly subjective, it was clear that instrument development and assessor training had been more systematic than that undertaken by many other states. PAS developers reviewed several existing PAS instruments (e.g., from Maricopa County, Florida, Minnesota, and Virginia) and selected items they felt most appropriate. Selected items included many that studies[5,6] have shown to be significantly associated with institutionalization (e.g., functional and medical impairment) as well as some that have not empirically been shown to be associated with institutionalization (e.g., sensory impairments and need for specific medical/nursing services). The functional section assessed an individual's activity of daily living (ADL) abilities, psychosocial functioning, continence, and sensory impairment. The medical section included medication/monitoring needs, catheter and ostomy care, rehabilitation nursing

needs, and overall medical problems. A revised, more objective EPD PAS went into effect in December 1992.

Initially, ALTCS used the same PAS instrument for both EPD and MR/DD applicants. Subsequently, however, AHCCCS recognized that some of the criteria used for EPD eligibility were not appropriate for MR/DD clients. For example, the PAS inventoried and weighted a comprehensive set of medical problems. But federal law specifies that only a limited subset of medical criteria are appropriate for judging eligibility for service among MR/DD clients. ALTCS staff also became convinced that the instrument was inadequately sensitive to the different needs manifested by MR/DD clients at different age levels, particularly children under five years of age. The MR/DD revision was implemented in September 1995.

Vitae of assessment staff were also reviewed. It was clear that the program had hired and trained a group of experienced and qualified personnel (nurses and social workers) who seemed to be operating reasonably close to the state-of-the-art. It was also clear that staff were provided with extensive training, continual supervision, and continuing education.

Taking into account both the instrument and the process of implementation, there seems to be good reason to conclude that the assessment teams would be effective agents of AHCCCS and HCFA in implementing the state and federal interest in limiting eligibility for ALTCS services to clients at high risk of institutionalization. Empirical results of the medical/functional eligibility process (PAS process) indicate that the PAS is functioning as an effective screen. Approximately 40% of EPD applicants are denied eligibility each year. There are numerous reasons for denial, including income ineligibility, voluntary withdrawal, failure to disclose financial information, and failure to meet the PAS eligibility threshold. Of those denied eligibility, between 16% and 20% each year are denied by the PAS. For MR/DD applicants, approximately 35% are denied eligibility each year, with the PAS accounting for about 40% of the denials.

Are the ALTCS PAS Criteria Effective in Identifvinq Those at Risk of Institutionalization?

To examine whether the ALTCS PAS criteria identify those at risk of institutionalization, ALTCS EPD nursing home residents (columns 2 and 3 of Table 11-4) are compared to residents on the 1985 National Nursing Home Survey (NNHS)(column 1 of Table II-4). The two groups proved to be similar. ALTCS ICF residents are then compared to ALTCS HCBS clients (column 4 of Table 11-4). In this case, the two populations differ somewhat. HCBS clients tend to be younger, more likely to be married, less likely to be mentally impaired, and less severely physically impaired. Nonetheless, the HCBS population appears to be similar to many national residents found on the NNHS.

The ALTCS HCBS population age 65 and older, is compared to clients enrolled in the National Long-Term Care Channeling Demonstration funded by the United States Department of Health and Human Services (see Table 11-5). ALTCS HCBS clients are more severely dependent, suggesting that AHCCCS does a better job of targeting than the Channeling program. Finally, the ALTCS MR/DD population is compared to ICF/MR residents in the 1987 National Medical Expenditure Survey (NMES). ALTCS appears to serve a more dependent population. Analysis of clients' level of dependence, degree of retardation, and medical needs suggests that ALTCS serves a predominately severely dependent MR/DD population. These comparisons lead to the conclusion that the ALTCS PAS is doing an excellent job of targeting eligibility to those at risk of institutionalization.

Does the PAS Process Result in Matchinq Higher Need with Higher Care Levels?

EPD

PAS assessment teams, as part of their eligibility determination, assign a level of care that the patient would need if s/he were institutionalized. These levels are ICF, SNF-I, or SNF-II. An applicant must require care at least at the ICF level care to be ALTCS eligible. Initially, contractors

Table II-4

PERCENTAGE DISTRIBUTION* OF NURSING HOME RESIDENTS NATIONALLY AND ALTCS BENEFICIARIES AGE 65 AND OVER BY LEVEL OF CARE AND SELECTED CHARACTERISTICS

		ALTCS		
	NNHS N=1,976	SNF N=5,303	ICF N=3,068	HCBS N=1,305
Age				
65-74	14%	18%	17%	30%
75-84	37	40	41	40
> 85	49	43	43	30
Sex				
Male	23	26	23	25
Female	77	74	77	75
Marital Status				
Married	15	15	8	19
Not Married	10	12	12	8
Divorced/Widowed	75	73	80	73
Low Income	44	100	100	100
ADLs				
No Help	< 1	< 1	2	8
Mobility	c I	< 1	< 1	2
Bath/Dress	30	3	24	19
Toilet/Eat	65	97	74	72
Diagnoses				
Mental	< 1	25	2 1	8
Cancer/Genitourinary	18	14	17	22
Circulatory System	46	29	31	36
Nervous System	11	13	9	9
Musculoskeletal	8	5	8	10
Respiratory System	5	5	6	8
Injury	4	6	4	3
Other	7	4	4	3
No Condition	2	1	1	< 1
Incontinent	52	90	46	59

Source: AHCCCS Data Transfer, March 1991 (covering all clients served in the first two years of the ALTCS program) and the 1985 National Nursing Home Survey Resident File (altered to remove residents with a primary diagnosis of mental disorder)

- Numbers may not add to 100 due to rounding

Table II-5

PERCENTAGE DISTRIBUTION' OF ALTCS HCBS CLIENTS AND CHANNELING LONG-TERM CLIENTS AGE 65 AND OVER BY SELECTED CHARACTERISTICS

	ALTCS N=1,305	Channeling N=5,554
Age		
65-74	30%	28%
75-04	40	45
> 85	30	27
Sex		
Male	25	28
Female	75	72
Marital Status		
Married	19	32
Not Married	8	N/A
Divorced/Widowed	73	N/A
ADLs		
No Help	8	5
Mobility	2	c l
Bath/Dress	19	34
Toilet/Eat	72	61
Diagnoses		
Mental	8	N/A
Cancer/Genitourinary	22	7
Circulatory System	36	95
Nervous System	9	31
Musculoskeletal	10	46
Respiratory System	8	18
Injury	3	9
Other	3	30
No Condition	< 1	9
Incontinent	59	58

Source: AHCCCS Data Transfer, March 1991, and the National Channeling Demonstration Project data tapes

N/A Not available

. Numbers may not add to 100 due to rounding

routinely questioned the level of care decisions made by the PAS assessors. Contractor staff assessed clients for placement decisions as a matter of course, using the PAS or their own assessment instrument. As capitation payments began to be constructed using the PAS level of care determinations, contractors had incentives to follow PAS level of care decisions more closely. Making level of care decisions consistently less conservatively than the PAS assessments would result in financial losses.

Level of care determinations continue to be a point of mild contention between AHCCCS and contractors but may reflect the contractors' tendency to report only cases falling toward one tail of the distribution of cases around a mean. That is, cases perceived as being PAS-rated at a level of care below what contractor staff feel is appropriate are more likely to cause objections than cases in which the PAS team thinks a client needs more care than do contractor staff.

Effectiveness of the overall level of care determination process is evaluated empirically by comparing clients' functional levels by actual placement level (SNF, ICF, HCBS). Results indicate that placement varies by need (see Table II-4). The most severely disabled clients receive skilled nursing services. For example, toileting/eating dependency rates among the three placements are: SNF, 97%; ICF, 74%; and HCB services, 72%. ICF clients and HCBS clients exhibit roughly similar patterns of dependency, although a larger fraction of HCBS clients are married. Nearly three times as many ICF as HCBS clients are mentally impaired. These observations suggest a systematic effort to place clients with lower need levels at lower levels of care while keeping the institutionalization option available for the most severely dependent patients.

However, there do'not appear to be explicit written criteria relating to the characteristics of an ALTCS client that are used to determine HCBS **placement** versus institutional placement. Instead, a combination of client characteristics (mental functioning, mobility, and ability to perform instrumental activities of daily living [IADLs]), client and family

preferences, case manager philosophy and experience, client-specific "cost-effectiveness" assessments, and service availability determine whether a client receives HCB services. Cost-effectiveness assessment refers to an ALTCS policy that limits spending on HCB services to no more than 80% of the costs of nursing home care. Costs above that level must be approved by a contractor case management supervisor on a case by case basis, and only for short periods. Most clients' care plans cost less than the 80% threshold because case managers are encouraged to write care plans so that most cases cost only about one-third of the cost of nursing home care.

MR/DD

While other states typically institutionalize the majority of their MR/DD clients, Arizona serves more than 95% of such individuals in HCB settings. That was not always the case. Between 1952 and 1973, Arizona opened and operated three institutions (the Arizona Training Programs at Phoenix, Tucson, and Coolidge) for its MR/DD population. Parental demands for improved, less restrictive care sparked a 1976 joint legislative committee review of service delivery, press investigations, and a lawsuit filed by a parents' advocacy group. These developments resulted in a long range plan to deinstitutionalize the MR/DD population and develop a system of community programs. Deinstitutionalization efforts continued and in 1988 the Arizona Training Program at Phoenix, which had between 86 and 96 patients, was closed. While four community ICF/MRs were created to take its place, their combined population totals only 46. The Tucson facility was depopulated from approximately 200 patients to 40 in late 1992. The Coolidge population had shrunk to 140 patients by that time and continues to be a target for closure. Although family opposition to its closure has kept it open, Coolidge has made no new admissions since 1988 and made very few in the several years before.

It appears that Arizona, having legislated a philosophy of deinstitutionalization, has adhered to that mandate for more than 15 years. Policies and practices adopted by the ALTCS program are an extension of this

pre-ALTCS policy. Initially DES did not want to include ICF/MRs as part of the demonstration waiver request. However, because the arrangement with HCFA stipulates that HCB services must be a substitute for institutional care, Arizona was forced to certify ICF/MRs to ensure that institutionalization is a placement option. In actuality, DES estimates that there have been 12 ICF/MR placements since ALTCS began. DES reports that the primary change under ALTCS is the infusion of money. Prior to ALTCS, services were funded entirely by the state. If funds were not available, clients were put on waiting lists. Since ALTCS, the department receives federal financial participation for its Title XIX clients, thus making it possible for limited state funds to be used for non-Title XIX persons.

DES staff's first objective in placement is to try to keep the client in the family home by providing supports, typically including renovations, equipment, respite, and in-home habilitation. Family characteristics are important determinants of the success of the home placement. These include number of members, whether they work or not, their attitudes, and make-up of household (divorce, single parent). Family "burnout" is sometimes unavoidable.

If a family will not accept any alternative but out-of-home placement, the family and DES may choose from a number of settings. These include DD foster care homes, adult development homes, behavioral health facilities, or group homes. Placements among the array of out-of-home options are influenced by a number of factors, including client characteristics and attitudes, service availability, and case managers' experience. Client-level determinants are functional and emotional problems and levels of self-help. Clients residing in group homes or receiving HCB services demonstrate greater levels of self-help than institutionalized clients and are less functionally dependent and emotionally disturbed. If the case manager and family believe that the client would be uncomfortable living with a number of other people, they may choose the family setting. On the other hand, if they think the client would benefit from peer interaction, they may choose the group home. Clients with behavior problems are often placed in group homes rather than foster homes.

Table II-6 compares ALTCS MR/DD clients across placement settings. As the table shows, clients with the greatest severity of retardation are more often cared for outside the home. The most severely retarded of these clients are more likely to reside in an ICF/MR or foster home rather than a group home. Those with mild or borderline mental retardation are more likely to be cared for at home or in other, less restrictive community placements.

A prospective payment system instituted October 1, 1992 for approximately 34 large DES providers may have some implications for case mix and level of care determination. This payment methodology pays a different rate to each provider, but the rate is uniform across all the provider's settings for a given service type regardless of clients' disability. Previously, payment reflected actual level of need. Now, providers are placed at risk for meeting client needs at a fixed per capita payment rate.

What Home and Community-Based Services and Settings are Available?

The ability to serve ALTCS clients outside the nursing facility rests upon the availability of HCB services. The array of services and settings is constrained primarily by state legislative authority, HCFA's approval of a service or setting for Medicaid coverage, and program contractors' success in development of their provider networks. Within these constraints, ALTCS provides a comprehensive array of services, although there are some urban/rural differences because rural counties lack both public transportation and a sufficient supply of providers. Small numbers of clients spread over wide distances discourages providers from entering the market. Contractors continually work to maintain and expand their networks.

Service options available for EPD clients include: adult day health care, attendant care, durable medical equipment, facilities for the traumatically brain injured, Level I and Level II behavioral health facilities, adult care homes (which are being piloted statewide), home health aide, home health nurse, home delivered meals, homemaking, hospice, medications/pharmacy, personal care, respite care, therapies, and

Table II-6

COMPARISON OF ALTCS MWDD CLIENTS' IN SELECTED RESIDENTIAL SETTINGS BY DISABILITY AND SELECTED CHARACTERISTICS

	ICF/MR N=68	Group Home N=468	Foster Home N=7	Family Home N=4,154
Severity of Mental Retardation'				
Profound	47%	22%	42%	10%
Severe	26	30	14	17
Moderate	24	31	28	27
Mild	1	13	14	16
Borderline	< 1	1	< 1	3
Other	1	3	<1	27
Percent with:				
Autism	4	4	< 1	5
Cerebral Palsy	31	18	57	22
Epilepsy	46	27	29	34
Incontinence	62	50	71	41
ADL Dependencies				
Bathing	100	86	100	89
Dressing	97	83	100	83
Toileting	90	57	86	62
Feeding	87	55	29	65
Walking	61	28	43	36
Bedfast	52	23	43	33
Percent who are:				
Blind	6	6	14	9
White	74	72	71	67
Adult	96	92	86	47
Male	57	61	29	56

Source: Combined Arizona data set created from AHCCCS LEDS and CATS data, 10/88 to 2/92; DES placement data, 12/88 to 1/93; and DES degree of retardation data, 9/92. Includes only those 4,776 individuals matched on all three files

- Excludes 79 individuals with missing data

+ Numbers may not add to 100 due to rounding

transportation. Two alternative housing settings are available for EPD clients: supportive residential living, which is being piloted in Maricopa County, and adult foster care. These settings provide room, board, and supervision for one to four adults in a family setting. ALTCS services are provided in these alternative housing settings, but room and board services are not covered by ALTCS. Some contractors argue that due to a shortage of affordable housing for the elderly, other settings such as congregate care facilities and supervisory care facilities that house more than four clients should also be covered.

MR/DD clients enjoy an even richer array of service options. Services include ICF/MRs, group homes, independent living apartments, DD day care, day training, foster care, habilitation, home health aide services, home health nursing, home management, personal care, pharmacy, respite care, therapies, transportation, and Level III behavioral health facilities.

Is the Use of Home and Community-Based Services Cost-Effective?

Earlier research on home care demonstration projects show that home care programs typically add to total costs of health care because few of those who use home care are at high risk of institutionalization. These conclusions were reached in prior studies by comparing costs of clients receiving expanded HCB services to control group clients whose service options were not expanded. Because the ALJCS program is statewide, it is difficult to find a control group. Instead an approach to calculating the cost-effectiveness of HCBS was developed in which an estimate is made of what costs would have been in the absence of HCBS. A cost-effectiveness formula was developed that compares actual costs with the estimated costs. The estimate has three major terms: 1) an estimated probability that an HCBS client would have been in a nursing home if HCBS were not available; 2) the number of months an HCBS client's nursing home stay would have lasted; and 3) the monthly cost of this avoided nursing home stay.

The formula required development of a logistic regression equation to identify risk of nursing home placement. An indicator dependent variable (resident or not in an ICF) is regressed on demographic, functional, and diagnostic characteristics of patients. Coefficients for each patient characteristic are then used to predict the likelihood that a given ALTCS HCBS client would be in a nursing home in the absence of HCBS. The model is developed using national data: the 1985 NNHS Resident File and the 1984 National Health Interview Survey - Supplement on Aging (NHIS-SOA).

Examples of predictors positively associated with the likelihood of being an ICF resident include being unmarried; functionally dependent; of advanced age; and having mental diseases or Alzheimer's disease, respiratory disorders, or circulatory disorders. Hence a very elderly individual suffering a mental disorder, severe ADL dependency, and other infirmities receives a high score, while a younger, moderately functional individual with diseases not associated with institutionalization receives a low score.

Clients who score a predicted probability of being a nursing home resident above a certain threshold score are treated by the formula as if they would have been in a nursing home in the absence of HCBS. The threshold score is set at the point that maximized the match between placement predicted by the model and actual placement on the national data set. This proved to be a score near the low end of scores of clients who actually resided in the nation's ICFs. A large percentage of ALTCS HCBS clients have risk scores above the threshold, suggesting that most clients are using HCBS to avoid nursing homes.

These risk-of-institutionalization predictions are then used in the cost formula to estimate what costs would have been in the absence of HCBS. Clients with high risk scores are estimated by the formula to be likely to incur heavy nursing home costs in the absence of HCBS. HCBS clients with low risk predictions are estimated by the formula to incur little or no nursing home costs in the absence of HCBS. Collectively, for all HCBS patients, results show that ALTCS is cost-effective. The program costs no more with HCBS than it would without these services. The results are robust.

Substantial altering of the predictors used to assess risk or the threshold risk score for judging similarity to nursing home residents does not change the conclusion that the program is cost-effective. HCBS could also be much more expensive per capita and still produce a savings over the cost of nursing facility care.

The initial cost-effectiveness study examined client data from ALTCS' first two years. A follow-up study shows that the ALTCS program appeared to be screening patients with at least the same level of rigor applied earlier in the program. In fact, the subsequent ALTCS clients manifest even higher levels of disability and risk. They are more severely dependent in ADLs, show a higher prevalence of mental conditions, and are more likely to be incontinent. That both the more recent HCBS and nursing home clients are more debilitated than previous clients is consistent with what would be expected to occur if the nursing home population's least dependent clients are being diverted to HCBS. Consequently, the program continues to be cost-effective in its use of HCB care.

It appears that ALTCS is serving its MR/DD population on a cost-effective basis as well. The evaluation examined the first three years' experience of the MR/DD HCBS program by comparing the actual costs of providing ICF/MR and HCB care to the expected cost of ICF/MR care if HCBS were not available. Expected costs are calculated by multiplying the number of clients who would probably have been institutionalized in the absence of HCBS by their lengths of stay in an ICF/MR (expected to equal their lengths of stay in HCBS) by the cost of ICF/MR care. A logistic regression model of the risk of institutionalization was developed and the coefficients applied to each MR/DD HCBS client. The model was developed on the NMES in the same way the EPD model was developed using the NNHS/NHIS-SOA. Variables tested for inclusion in the model, which had been suggested by the literature or by DES as being indicators of ICF/MR residence, are demographics (age, gender, ethnicity), degree of retardation, ADL dependencies, IADL dependencies, speech impairment, maladaptive behavior, medical conditions, handicaps, and equipment. Statistically significant factors positively associated with ICF/MR residence include being an adult, dependent in bathing, having at least

one IADL, and hurting other people physically. Statistically significant factors negatively associated with ICF/MR residence include autism, incontinence, having a speech impairment, being white, and having an undefined degree of retardation. The estimated coefficients produced by the final logit model are then multiplied by each ALTCS HCBS client's characteristics to determine the individual likelihood of ICF/MR residency. Results suggest that ALTCS' MR/DD HCBS program is cost-effective with respect to its use of home care. Results are robust and unlikely to change with changes in the predictive model.

Lessons Learned

By separating eligibility determination from service delivery, the ALTCS approach controls case mix of contractors. This removes what may be a natural tendency for providers to expand the pool of eligibles to include clients whose needs are limited. Having eligibility determined by someone other than the contractor moves further in the same direction. Adjusting the per capita payment rate downward based on the assumption that a substantial fraction of clients will be served in HCBS forces the contractor to aggressively seek to place clients in HCB settings rather than institutional settings. All of these factors and probably others contribute to the finding of overall cost-effectiveness. They suggest that HCB services can be delivered cost-effectively if the proper incentives and constraints are built into the program.

ALTCS also appears to be meeting what has been regarded as a major challenge to development of a managed care approach to long-term care: major urban-rural differences in the supply of services. ALTCS' approach is to develop managed care networks quickly in the urban areas and slowly and creatively in rural areas. The essence of the approach has been flexibility; finding the best currently available solution to problems while continuing to seek better solutions. This approach is likely to serve other states well in approaching similar challenges.

Administrative Costs

Background

Although they are often poorly understood, administrative costs are receiving considerable attention in the current policy debate about reforms in the health care system.[7,8] Some reform advocates attest that a system producing smaller administrative costs can better support health care needs.[9,10] Underlying their argument is the implicit contention that administrative costs are wasteful. Those who disagree point out that administrative costs in and of themselves are not negative and that indeed they can be beneficial if they add more to program savings than they do to program costs while maintaining the same level of quality.

The ALTCS program incorporates several features that can have an impact on both the medical and administrative costs of the program, compared to a traditional Medicaid program. These features (preadmission screening, case management, use of program contractors, prepaid capitation of acute and long-term care services) are designed to provide care in a more efficient manner and to reduce medical costs. However, implementation and operation of these features will likely increase administrative costs.

Major Evaluation Issues and Findings

Traditional Medicaid programs have two sources of administrative costs: costs experienced by the state and costs experienced by the providers of care (hospitals, nursing homes, physicians, etc.). ALTCS has three sources of administrative costs: 1) costs experienced by the state, 2) costs experienced by the program contractors, and 3) costs experienced by the providers of care.

The existence of a program contractor who manages and arranges for all acute and long-term care services is a unique concept in ALTCS. This concept makes it different from a traditional program and is of special importance to consider in an analysis of administrative costs. Functions that may be the

responsibility of the state in a traditional Medicaid program are either responsibilities of the state, the responsibilities of the contractor, or shared responsibilities between the state and the contractor in Arizona. A large proportion of functions are shared by the state and the contractor in Arizona. The sharing of responsibilities creates the potential for duplication of services and costs, which can result in larger administrative costs. These larger administrative costs may or may not support activities that contribute more to program savings than they do to costs.

Data on administrative costs incurred by ALTCS providers are not included in this analysis. These provider administrative costs (including marketing and transaction costs) are similar to the administrative functions performed by providers"of care in all traditional state Medicaid programs. Comparison data reported for other programs should appropriately be compared against the AHCCCS Administration's costs plus the administrative costs of the contractors.

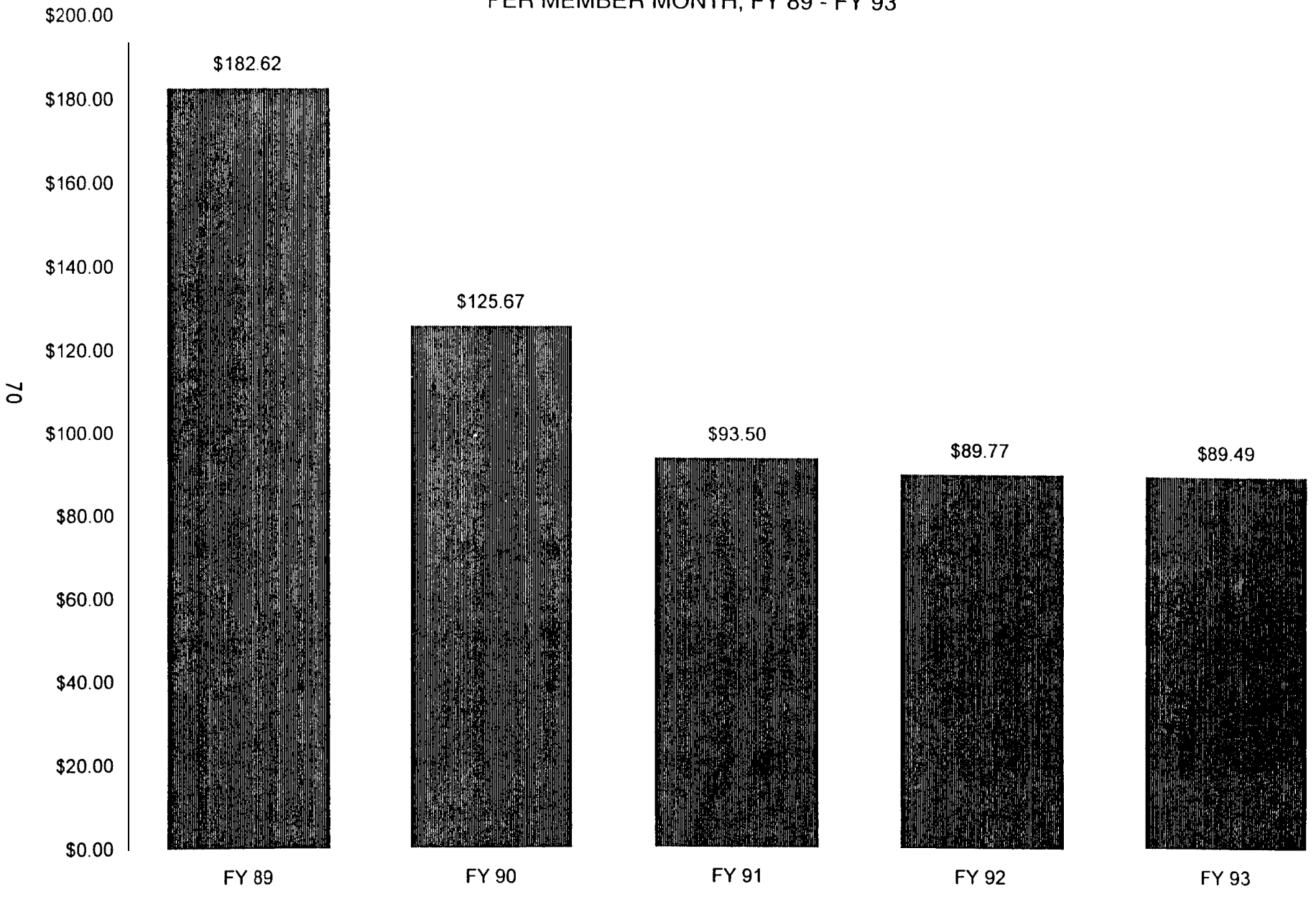
AHCCCS Administration Cost

Data on administrative costs incurred by the AHCCCS Administration are available from records that are maintained by AHCCCS for the purpose of reporting on the HCFA-64 Quarterly Financial Reports. Total administrative costs ranged from $11.9 million in FY 89 to $15.5 million in FY 90, to $14.1 million in FY 91, to $15.3 million in FY 92 to $16.9 million in FY 93.

Figure II-3 shows the administrative costs per member month from FY 89 through FY 93. These expenditures show a steady decrease between FY 89 and FY 91 from $182.62 per member month to $93.50 per member month, and were level, at a little under $90 per member month, for FY 92 and FY 93. This pattern is consistent with the implementation of a new program for which initial expenditures on MIS activities and capital equipment are required. As the program matures, per capita costs often decrease.

Figure II-3

AHCCCS ADMINISTRATIVE COSTS FOR ALTCS
PER MEMBER MONTH, FY 89 - FY 93



Program Contractor Cost

The EPD Contractors

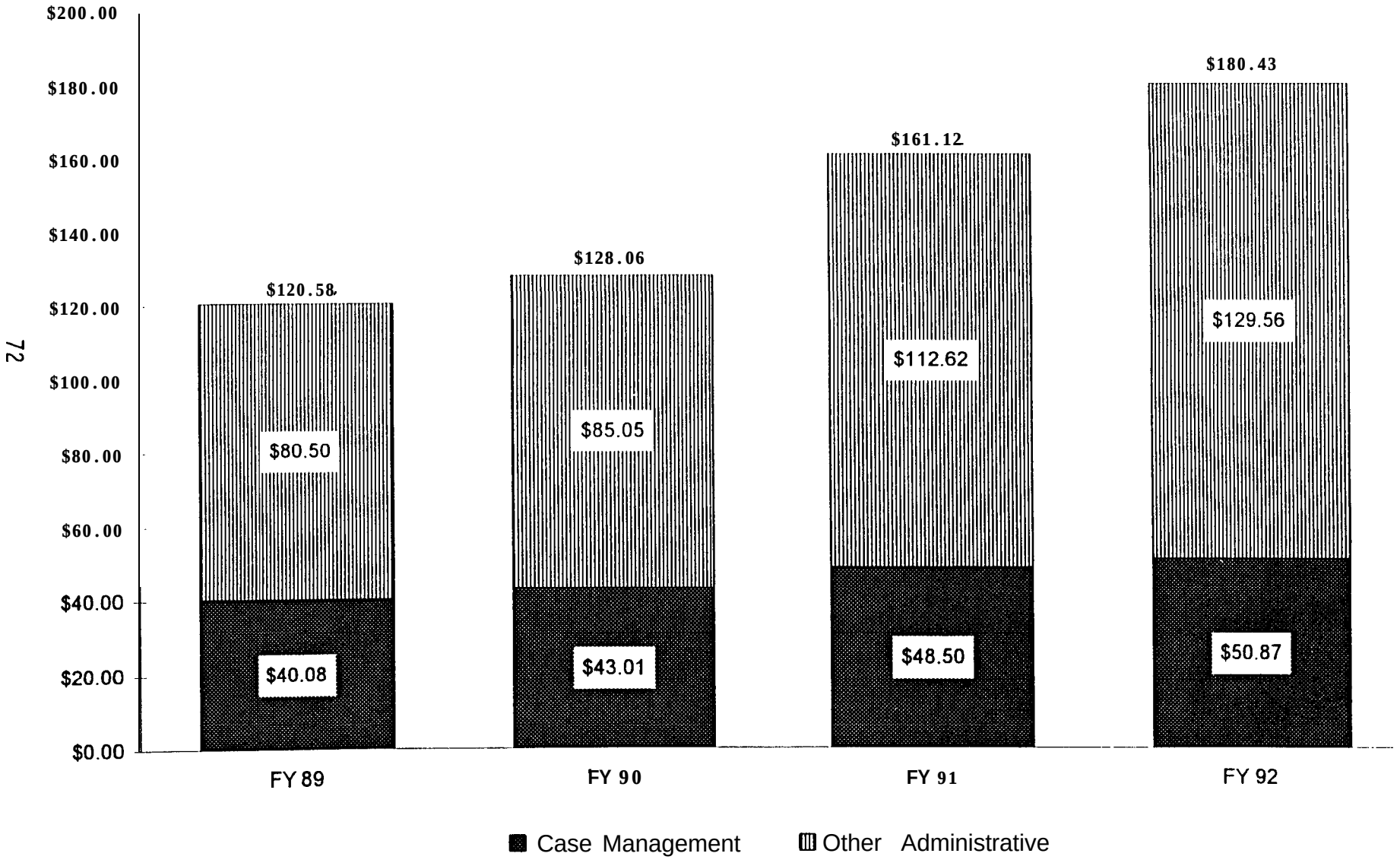
The administrative costs of AHCCCS represent only one component of the total administrative costs of the ALTCS program. The second major component of ALTCS administrative costs are the costs incurred by the program contractors. The program contractors are responsible for case management, procuring providers for the program, and coordinating the service delivery system. They also must submit encounter data and financial data to ALTCS.

Total administrative costs for the EPD contractors were $5.4 million in FY 89, $10.5 million in FY 90, $15.6 million in FY 91, and $19.8 million in FY 92. Figure II-4 shows the per member month administrative costs for the EPD program contractors from FY 89 through FY 92. The sources of the data for this table are the quarterly and annual financial reports that are submitted by participating long-term care contractors to AHCCCS. The administrative costs are divided into case management costs and other administrative costs. As can be seen from the figure, over that time period, per member month administrative costs rose gradually with other administrative costs rising faster than case management costs.

The reason for the 50% increase in administrative cost from FY 89 to FY 92 by the EPD contractors is unclear. One hypothesis is that the increase is due to the development of data systems and other administrative systems during the first years of program operation. Another hypothesis is that it may be due to an increase in the proportion of the population in HCB care, which results in greater expenses. However, if this were the case, it would be expected to see the largest response in the area of case management, and case management has increased less than half as fast as other administrative costs. AHCCCS suggests that they would expect case management per member month costs to increase as the number of available HCB services expands, and there are more services to coordinate.

Figure II-4

EPD PROGRAM CONTRACTORS ADMINISTRATIVE COSTS PER MEMBER MONTH BY TYPE OF COST (CASE MANAGEMENT AND OTHER ADMINISTRATIVE), FY 89 - FY 92



It is important to bear in mind that the ALTCS program treats program contractor case management costs as administrative costs. Other programs may consider case management costs as direct services and include them with medical service costs. As a result, such programs will overstate medical service costs and understate administrative costs as compared to ALTCS.

The MR/DD Contractor

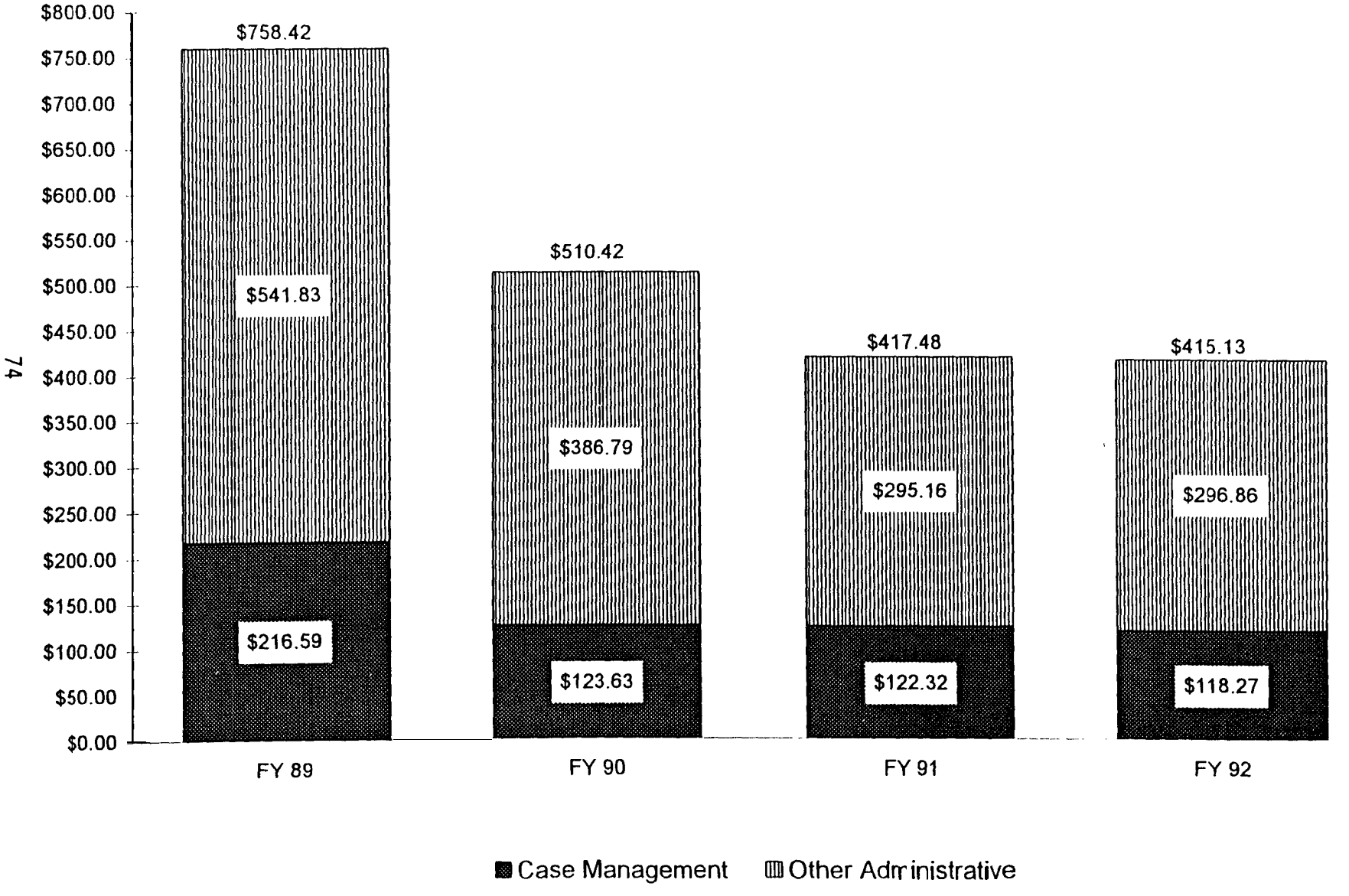
Administrative costs in the MR/DD program were $10.0 million in FY 89, $16.1 million in FY 90, $18.8 million in FY 91, and $20.9 million in FY 92. Figure II-5 shows the DES per member month administrative costs for the MR/DD population. Administrative costs were derived from audited financial statements for FY 89 through FY 92. Data were converted from a SFY to a federal fiscalyear basis to be consistent with the other data sources. DES per member month administrative costs decreased 45% from FY 89 to FY 92. Both the case management and the other administrative components decreased by exactly the same amount, 45%.

The relatively large case management costs associated with the MR/DD population relative to the EPD population is due partly to the fact that approximately 95% of MR/DD eligibles are in the community. Coordination of services for non-institutionalized persons is more time consuming and more costly than coordinating services for those institutionalized. Larger case management costs due to smaller institutionalization rates are not, however, the full explanation for larger DES administrative costs because non-case management administrative costs are also considerably larger for the MR/DD population.

These other administrative costs for DES are composed of an allocation of central DES administration as well as the administrative costs of DES that support, among other things, a network of district offices throughout the state. Obviously, these activities and support cost allocations require substantial resources. Whether this is due to bureaucratic inefficiencies in

Figure II-5

DES ADMINISTRATIVE COSTS PER MEMBER MONTH BY TYPE OF COST
(CASE MANAGEMENT AND OTHER ADMINISTRATIVE), FY 89 - FY 92



DES, or the special needs of the MR/DD population, or a combination of both is not known.

Total ALTCS Administrative Cost

Figure II-6 presents the total administrative costs for both the AHCCCS Administration and the ALTCS program contractors. Case management costs incurred by the AHCCCS Administration were estimated to be quite small, only two percent. For FY 92, this estimate results in costs that were only $1.80 per member month. AHCCCS responsibility in case management is limited to oversight and to providing services directly to counties that did not have a program contractor.

Total administrative costs per. member month fell by 20% from FY 89 to FY 90 and by 7% from FY 90 to FY 91. They increased by 3% from FY 91 to FY 92. Of the $344.06 spent per member month on administration by AHCCCS and the contractors in FY 92, 74% was incurred by the program contractors and 26% was incurred by AHCCCS.

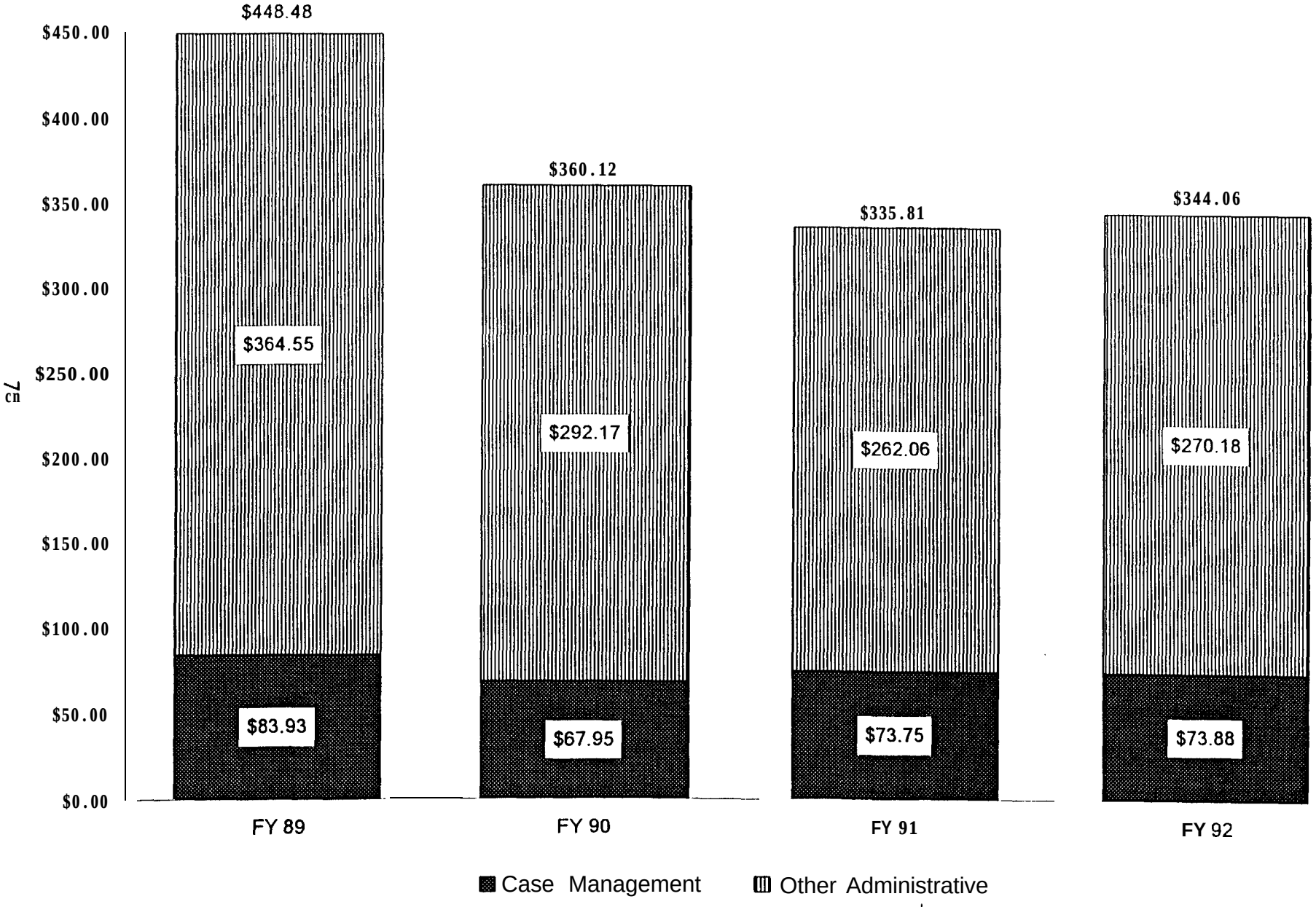
Comoarison of ALTCS Administrative Costs With Those of Other LTC Programs

Comparing ALTCS administrative costs with those incurred in other programs is difficult for a number of reasons. First, the population covered by the ALTCS program is unique. All individuals in the program must pass both financial and medical/functional eligibility screens. Many other programs do not use state applied medical/functional eligibility screens that are as stringent as the PAS. In addition, the ALTCS population is composed of both EPD and MR/DD beneficiaries. Many waiver and demonstration programs directed at those in need of long-term care are limited to the EPD population.

In addition, the ALTCS program differs from many others in terms of services offered. Every ALTCS beneficiary receives case management services.

Figure II-6

ALTCS ADMINISTRATIVE COSTS PER MEMBER MONTH BY TYPE OF COST
(CASE MANAGEMENT AND OTHER ADMINISTRATIVE), FY 89 - FY 92



In addition, the mix of services offered to those in non-institutional placements is very broad. This is particularly true for the MR/DD beneficiaries. Unlike some 'other states',' the overwhelming majority of MR/DD beneficiaries in Arizona are in non-institutional settings. Consequently, the costs of case management in ALTCS are expected to be greater than in programs that offer a narrower range of services and have the majority of eligibles in institutional settings.

Taking these caveats into consideration, a reasonable administrative cost comparison can be made between ALTCS and other state Medicaid programs that cover a similar population. Thus, the set of comparison states is limited to those that in FY 92 served between 240,000 and 1,000,000 eligibles, and are no more than 50% above or less than 50% below both the Arizona number of MR/DDs served per 1,000 eligibles and the Arizona number of home health recipients as a percent of overall long-term care recipients. Fourteen states meet these criteria.

It is not possible to obtain cost data on Medicaid programs of the comparison states that separate out the administrative costs concerned with long-term care beneficiaries from those associated with the acute care beneficiaries. However, because a large number of the long-term care eligibles in other states are in institutional settings, the claims processing costs per eligible per dollar of Medicaid for this group is likely to be smaller than the costs per acute care eligible. As a result, if the administrative costs are computed as a percentage of the medical service costs for the comparison group, such a figure is likely to provide an upper limit estimate of the administrative cost for the long-term care population.

Administrative costs as a fraction of medical service costs ranged from 1.8% to 8.2% for these 14 states. ALTCS administrative costs (including both the AHCCCS and the contractor costs) as a percent of medical service costs were 16.0%, almost twice the comparison state with the largest administrative cost percentage.

Lessons Learned

Administrative costs in ALTCS are greater than those in other Medicaid programs. Medicaid managed care requires the development of substantial infrastructure, not part of a traditional Medicaid program. This infrastructure includes systems to support procuring providers, monitoring service networks, determining financial and medical/functional eligibility, enrolling members with contractors, making capitation payments, providing case management, regulating contractor activities (both in terms of quality assurance and financial viability), and collecting and analyzing encounter data.

The analysis of administrative costs in ALTCS included examination of both the costs for the AHCCCS Administration and for the program contractors. In FY 92, ALTCS administrative costs totalled $56 million for a program serving 16 thousand beneficiaries. This amounts to about $336 per member month. Central ALTCS Administration costs were 26% of the total, and the ALTCS program contractors costs were 74% of the total.

In examining these costs it must be remembered that the administrative functions of ALTCS as compared to a traditional Medicaid program indicate a greater number of administrative activities for ALTCS. These administrative activities were new activities for which there was little prior experience. Consequently, the administrative costs reported for early periods of implementation include substantial development costs.

Analysis of resource use by functional area within the ALTCS program is difficult because data do not exist in a manner that makes it possible to make comparisons. AHCCCS systems did not produce data that make functional comparisons possible. Administrative cost data reports by the contractors during the time period of the study did not clearly identify functional areas for reporting nor did AHCCCS monitor the completion of the reports to assure that they were completed in a consistent manner. This argues for more attention to the reporting of administrative costs data both from the state to HCFA and from contracted entities to the state. Without careful attention to

standardized definitions and strict monitoring of compliance, data will not be available to conduct appropriate analyses. These types of analyses are necessary to assess the effectiveness of specific administrative expenditures.

In ALTCS, program contractors have primary responsibility for service delivery, quality assurance, and cost containment. They serve as partners with the state in the provision of care to beneficiaries and the method by which they are paid for their administrative costs should be considered. ALTCS program contractors are reimbursed a specified amount per enrollee per day for the cost of case management services, and they are paid for other administrative expenses based on a specified percentage of the monthly payment for long-term care services plus case management. AHCCCS also negotiates a percentage with the private contractors that includes an allowance for contingencies, profit and contribution to reserves. States considering an ALTCS-type system need to explore payment options for administrative costs that provide the desired incentives, are reasonable, do not appear arbitrary, and are appropriate for effective program management.

In implementing an ALTCS-type program consideration needs to be given to the state's three key functions: 1) eligibility determination (financial and medical), 2) monitoring of program contractors, and 3) development of data systems to support the capitated program. Arizona uses a PAS instrument to target ALTCS to those persons at risk of institutionalization. States need to determine the appropriate screening process for their populations. The length of the instrument, the frequency of re-evaluations, the training of the persons performing the screen, and the size of the team doing the screening will each impact the administrative costs of this aspect of the program.

The monitoring of program contractors includes quality assurance activities, operational reviews, case management and service reviews, responding to grievances and appeals from program eligibles and providers, and monitoring the financial status of each contractor. States need to define their oversight role and the specific activities to be undertaken for monitoring of program contractors. Other states considering implementing a long-term care program similar to ALTCS will also need to consider the

features of the MIS that will be needed to effectively manage the program. A capitated program needs to be especially concerned with having information available to manage the program, including data to permit monitoring of underprovision of services. Thus, states will need to budget administrative costs accordingly.

In summary, comparison of ALTCS program administrative costs as a percentage of medical service costs with comparison data show a larger percentage of administrative costs for ALTCS. Other analyses of the ALTCS program conducted under this evaluation indicate that the ALTCS program (administrative plus medical service costs) is less costly than a traditional Medicaid program. Thus, it appears that higher administrative costs are resulting in lower medical service costs, and that this relationship overall is cost-effective. In particular, a considerable amount of the administrative resources of the program contractors and the state may in fact be aimed at helping to control the medical services costs of the program. If additional monies are allocated to administration and the net result is an overall reduction in total program costs with no decrease in quality of care, then the allocation is an efficient one.

Manaoement Information System

Background

Despite the promise of managed care as a vehicle to rationalize the health delivery system in publicly funded programs, there is often not enough consideration given to the management information development necessary for the implementation of prepaid managed care. This kind of infrastructure development involves the setting up of systems to procure providers, to monitor service networks and primary care providers, to enroll members, to make capitation payments, to regulate plan activities, and to collect and analyze utilization data.

Over the last ten years, there has been a growing awareness of the importance of utilization monitoring in managed care, both by the managed care plans themselves for their own internal cost management and among those who are financing them (Medicaid programs, the Medicare program, employers, unions, business coalitions, etc.). In addition, as public/private partnerships in health care are forged, the private sector is taking on its responsibility to provide information – a responsibility that ten years ago these private entities were generally not prepared to acknowledge.

An effective MIS is a critical component in a program such as AHCCCS, both in terms of controlling the day-to-day transaction activity and providing crucial operational and management information. In the first half of 1991, AHCCCS implemented its Prepaid Medicaid Management Information System (PMMIS), after a five-year development effort. Prior to the implementation of this new system, AHCCCS has been using a Medicaid Management Information System (MMIS) that was originally designed to support a fee-for-service Medicaid program. Below, the AHCCCS PMMIS and utilization data collection and reporting are discussed.

Major Evaluation Issues and Findings

The AHCCCS Prepaid Medicaid Management Information System

Development of the System

The MIS requirements for traditional Medicaid programs have evolved and matured over the last 25 years. The basic functional and data requirements were laid out in the early 1970s in the General System Design for the Medicaid Management Information System. These MMIS specifications have been the basis for most Medicaid systems development over this period.

Prior to the implementation of AHCCCS, there was no comparable model like the MMIS for prepaid programs. The MIS needs for a prepaid program like AHCCCS differ significantly from those of a fee-for-service program, both in

terms of functions performed and data required. The MIS must support various unique requirements, including: the procurement of contracted health plans; the monitoring of plans' service networks and provider capacities; the enrollment of members into plans; the processing and issuing of capitation payments; the collection of data on service utilization in the prepaid plans; the monitoring of plans' utilization patterns and the appropriateness of services provided; the overall monitoring of health plan performance and financial condition; the tracking of care-managing providers (PCPs and case managers); and the processing of reinsurance and deferred liability claims.

The focus of the MIS for a prepaid program is to provide the systems and necessary information to support these unique concerns. In contrast, the MIS for a traditional fee-for-service program will place greater emphasis on efficient processing of claims transactions. The relative importance of transaction processing is diminished in a prepaid MIS, while the relative importance of timely operational and management information is increased.

The initial system supporting the AHCCCS acute care program, and later the long term care program, was an MMIS adapted from another state and modified to support AHCCCS' prepaid requirements. Early in the acute care program, it became clear that this system was not adequate to support the program's unique needs. Therefore, a development effort was initiated to implement a new PMMIS specifically designed to support a program such as AHCCCS. The PMMIS was implemented in the first half of 1991 after a five-year development effort.

The PMMIS was designed as a relational database system, for improved data integrity and access to information. It consists of 11 subsystems: Provider, Recipient, Reference, Encounter/Claims, Health Plan, Financial, Case Management, Information Management, Utilization Review/Quality Assurance, Long-Term Care Eligibility Determination System, and the CATS. Several of these subsystems are analogous to traditional MMIS subsystems, but in general they are designed much more around the unique managed care needs listed above.

AHCCCS staff are very happy with the PMMIS. They indicate that the data contained in the system are much more complete, reliable, and accessible compared to their old system. The relational database technology results in the data being better defined, internally consistent, and centralized in one integrated database rather than being spread across numerous files. Much more information is available on-line, making research and resolution of everyday issues more effective, productive, and less frustrating.

PMMIS Costs

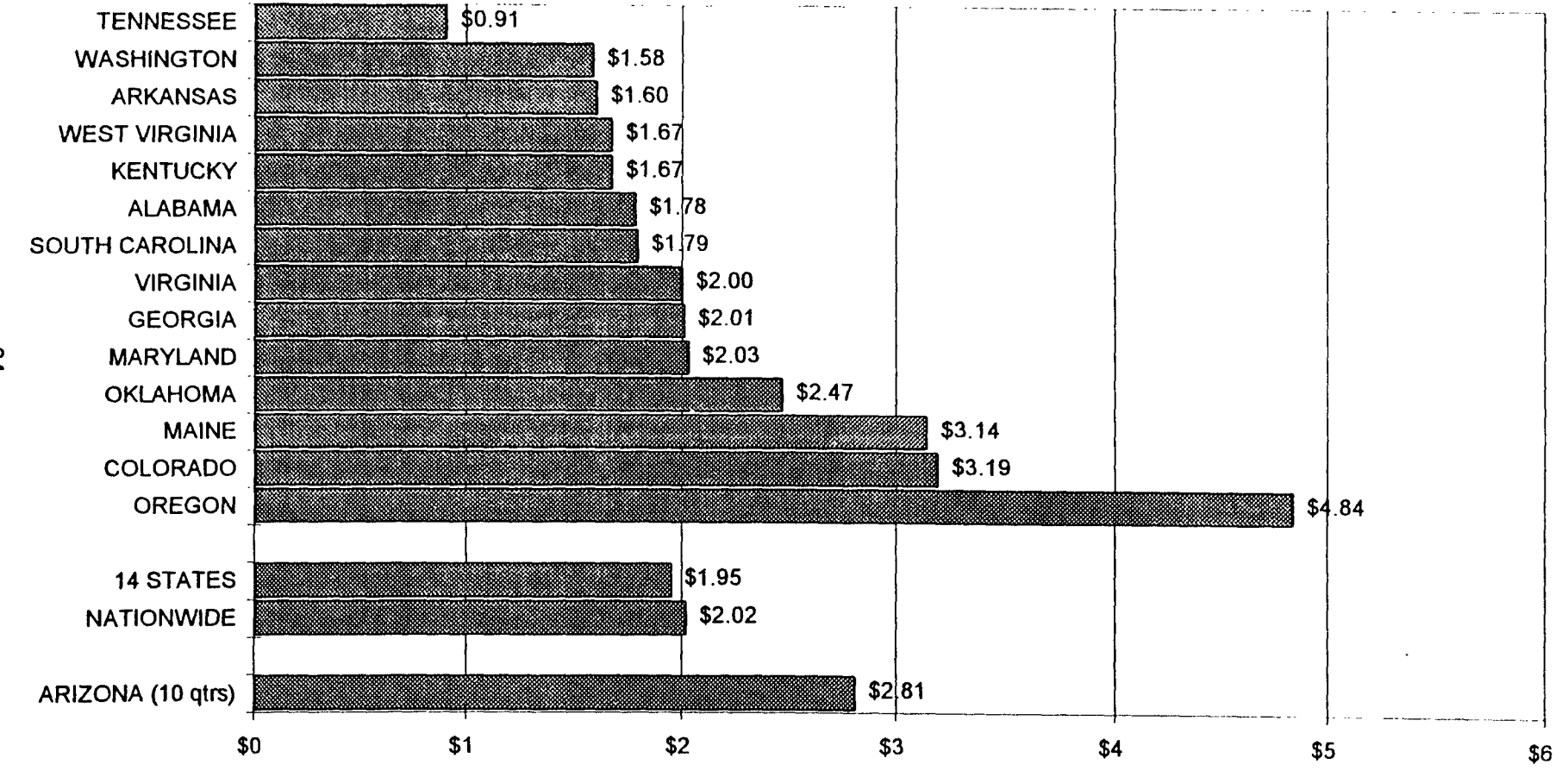
The costs for design, development, and implementation of the PMMIS were significant. **The total claimed** cost (for purposes of 90% MMIS funding) was $29.5 million, consisting of $22.4 million for contractors and $7.1 million for in-house costs.

Operational costs have also been high. For the first ten quarters of operation (April 1991 through September 1993), the total "computable" cost claimed as eligible for 75% MMIS funding was $32.4 million. These costs were compared to prior MMIS costs for the five quarters before implementation of PMMIS, as well as to MMIS costs in other states. On a cost per member month basis, the post-PMMIS operational cost was $2.81 per member month, as compared to SO.72 per member month for the prior system. As a percentage of medical assistance payments, the PMMIS cost is 1.1% compared to 0.4% for the prior system. Prior to implementation of PMMIS, the MMIS costs for AHCCCS represented 4.3% of total computable AHCCCS administrative costs (excluding the costs of PMMIS development). After implementation, the PMMIS operational costs represent 15.2% of total administrative costs.

A group of 14 states was selected for comparison to AHCCCS PMMIS operational costs (See Figure 11-7). The states were selected based on the size of their Medicaid program and the existence of an operational MMIS. The $2.81 AHCCCS cost per member month was the fourth highest among the states compared, and was about 50% higher than the group as a whole. The average for the comparison group was $1.95 in FY 92. The AHCCCS operational cost of 1.1%, as

Figure II-7

COMPARISON OF MMIS COSTS PER MEMBER MONTH*



Source: HCFA-64: Line 4 for states, Lines 4 and 5 for nationwide; HCFA-2082; AHCCCS Eligiblity Data

* Comparison state data are for FY 92; Arizona data are for the ten quarters ending September 1993

a percent of medical assistance payments, compared to 0.65% for the other states. Arizona's were the second highest costs on this basis.

Comparisons with other states should always be viewed with some caution. All state programs have differences in scope of services and may have differences in accounting practices for reporting costs. Further, the AHCCCS PMMIS costs during the first ten quarters of operation are likely to have been higher because of normal start-up costs. However, it appears from these comparisons that the AHCCCS PMMIS costs during the first ten quarters are significantly higher than other states' costs and significantly higher than pre-PMMIS costs.

PMMIS Cost-Effectiveness

The significant development and operational costs raise the question of whether the PMMIS benefits have justified the costs. In its Advance Planning Document (APD) requesting HCFA approval for the development and implementation of the PMMIS, submitted in July 1987, AHCCCS estimated that the development and implementation costs would total $18 million. The APD anticipated that the PMMIS operations costs would be about the same as the old MMIS costs. The expected quantifiable benefits of the PMMIS were estimated at $7.6 million per year due to savings from enhanced claims processing, improved TPL recoveries, better information for capitation rate setting, better utilization controls, and other factors. These savings estimates amounted to 2.6% of the total AHCCCS program and administrative expenditures in FY 86 through FY 87. Based on these projected costs and savings, the APD estimated that the new PMMIS would have a payback period of slightly under three years.

Review of actual costs and the realized benefits of the system after the first two years of operation indicated that the majority of specific areas of tangible savings projected in the APD had not yet shown true savings at a significant level. An assessment of the PMMIS costs and benefits in relation to those originally promised would probably have concluded that the system was not cost-justified. The development and operations costs were significantly

more than expected and many of the expected tangible benefits had not materialized.

However, the true cost-effectiveness of the system may not be determined entirely by the tangible costs and benefits. The system has clearly been successful in providing substantial day-to-day support for the operation of the AHCCCS program. The system may well be the most critical element of the administrative infrastructure which allows the program to operate. The users believe the PMMIS is indispensable to their jobs and they are very enthusiastic about the system.

One of the greatest intangible benefits of the PMMIS is the ready access it provides AHCCCS staff to information about any aspect of the program. With a program the size of AHCCCS, a supportive information system often leads to improved policy decision-making with major financial impacts. The relational database structure of the PMMIS is designed to make such queries easy to fulfill in a timely manner with minimal need for special programming efforts. More effective management and better decision-making is a likely consequence.

The operational cost of the PMMIS, as a percent of medical service costs, is on the order of one point higher than the costs of the old system. The development and implementation cost of $29.5 million represents around two percent of expected annual medical service costs. Consequently, if the PMMIS can generate program savings on the order of two percent of medical costs, then the system can pay for its increased operating costs as well as pay back the development cost over a small number of years. There certainly is the potential for this level of savings, especially when considering the potential dollar impact of the "intangible" benefit of improved program management and decision-making.

Utilization Data Collection and Reporting

Data on utilization of services are critical to the management of any Medicaid program, whether prepaid or traditional fee-for-service. In a

prepaid or managed care program, utilization data can play an important role in many areas including utilization management and long-term cost containment, quality assurance, financial oversight, negotiation of reimbursement and capitation rates, overall monitoring and trending of services provided, and program planning and research.

In fee-for-service programs, utilization data are available as a by-product of the payment of claims. In a prepaid program, there is no natural counterpart to claims to serve as the vehicle for collecting utilization data. One approach is to require the contracted health plans to submit aggregate or summary-level data on utilization. Another approach is to require the submission of data on individual services, i.e., encounter data, which contain essentially the same information as fee-for-service claims (service type, diagnosis, provider, recipient, date of service, etc.) In either case, summary-level or individual encounter data, since there is no direct link between payment to the plan and the provision of utilization data, a prepaid program lacks the natural incentives to encourage complete and accurate submission of utilization information.

States have had very limited success in the collection of utilization data in their managed care programs. One significant factor is the difficulty in providing contracted health plans with sufficient motivation to submit complete, accurate, and timely data. A second factor impacting the collection of data is the difficulty in dealing with the wide range of automated data processing systems installed by the various plans. States have also given limited attention to providing plans with standardized definitions of the data required, and their efforts to validate the accuracy and completeness of utilization data have been lacking. Consequently, most states have not made significant use of the data that they do collect.

AHCCCS has shared many of these difficulties over the years, but on balance has surpassed most states in its efforts to collect and use utilization data. To a large extent, this is a consequence of the very large investment ($30 million) of federal and state money into the AHCCCS PMMIS, the requirements established and enforced by HCFA for AHCCCS to collect and report

encounter data, and the fact that AHCCCS and HCFA have been involved in addressing AHCCCS' data issues for more than 13 years.

Of particular note is the fact that AHCCCS has devoted significant resources to the collection and validation of individual-level encounter data. This effort has included editing the data, working with the plans to overcome problems, implementing sanctions against plans that do not comply with the requirements, working to resolve significant data reject problems, and implementing data validation approaches. While there has often been room for improvement in these efforts, nevertheless they are much more than most states have done. Again, it should be noted that AHCCCS' efforts in these areas have benefitted from a much greater investment in money and time than other states.

AHCCCS also places considerable importance on utilization data and makes active use of the data. Some of the areas in which such data are used include support for capitation rate-setting, determination of hospital reimbursement rates, support for policy research and analysis, program budgeting, responding to external information requests, monitoring of health plan inpatient and emergency room utilization, analysis of Surveillance and Utilization Review reports, monitoring underutilization and quality issues, monitoring pharmacy utilization, and conducting data quality studies. Many of these uses rely on the individual level encounter data, while some use summary-level data provided by the health plans.

There are several areas in which AHCCCS' use of the data could be enhanced. In particular, AHCCCS could make greater use of the encounter data as compared to the plans' reported aggregate summaries and could improve on reporting of overall utilization trends to give a "big picture" of the use of services in the program. However, the top management in the program believes in the criticality of utilization data, particularly individual-level data, and appears anxious to encourage a greater use of the information.

The health plans themselves exhibit various levels of sophistication in their reporting and use of utilization data. The plans use such data for monitoring overall utilization trends as well as profiling the utilization

patterns of individual practitioners. Most of the plans could probably improve in the manner in which they compile the data and the degree to which they use them to manage cost, utilization, and quality in their operation. Some, however, show a high level of sophistication in reporting and usage.

Lessons Learned

The experience of AHCCCS in developing, implementing, and operating the PMMIS underscores the need for any state embarking on a similar effort to be realistic about the projected costs and benefits of the system. Development costs and time frames are very often greater than expected, operating costs higher, and actual tangible benefits lower than expected. These factors need to be considered appropriately in the planning and design of a new system.

The PMMIS development effort was an extremely ambitious undertaking which produced the first-ever comprehensive MIS to support a prepaid Medicaid program. The system was also the first-ever MMIS development using the latest relational database technology. Both of these factors undoubtedly contributed to the unexpectedly high development cost and lengthy development time frame. At the same time, the resulting installed system can now be considered an invaluable model both as a prepaid MIS and as a database system. In the future, states can learn from the PMMIS development and operational experience, both in terms of strengths and weaknesses, in designing their own development approaches.

PMMIS may well be cost-effective in a broad sense, if intangible as well as tangible savings are included. However, there remains the question of whether the same, or most of the same benefits could have been achieved for a lower development cost and/or a lower operational cost. To a large extent, the cost of the PMMIS was driven by some critical design decisions (relational database, on-line encounters, increased functionality, more data on recipients, the decision to do on-line adjudication, etc.). The impact of design choice on cost in turn raises an important question that will be increasingly critical as states reach a point where they must replace their

current generation MMIS systems. The implementation of the relational database technology has undoubtedly played a major role in the ability of the PMMIS to serve internal user needs, especially in terms of providing ready access to program information and providing flexibility to accommodate program changes. This new technology may be a prime driver of the PMMIS costs, which significantly exceed those of other states. If so, then states will need to address the question of whether a step up in MMIS cost is a price they are willing to pay for what may be a more effective MMIS using relational technology.

The PMMIS experience also raises a question regarding the contracting for MMIS development and operation. AHCCCS was hindered by the lack of bidders with prepaid Medicaid experience and relational database expertise. AHCCCS chose to contract for development only and to manage the operations in-house. Had AHCCCS decided to contract for at least some period of operation, they may have attracted more bidders with Medicaid experience. This approach would have, in addition, provided an incentive for the contractor to design as much operational efficiency as possible into the system. This approach might have reduced development cost as well as ongoing operational and maintenance cost, because contractors may be willing to bid a more competitive price for development if they have an expectation of revenue from operations. Clearly, the contracting decision can have far-reaching implications, well beyond the initial development.

Finally, the PMMIS might be viewed as a model of the role of information in the design of future systems. The PMMIS provides a number of management information reports that users find to be reliable and useful. However, users are much more enthusiastic about the PMMIS' ability to respond to unanticipated information needs, as in ad hoc reports. The system development life cycle is now so long that fixed management reports may not quite fit the needs of the actual users when the system is finally implemented. Users' needs change over time, and it is impossible at design time to anticipate precisely what they will be at the time the system finally becomes operational. This suggests that less effort should be put into developing specifications for specific system outputs or reports, while more effort

should be put into defining the data and their relationships, so that future access to information can be highly flexible. This is precisely the approach taken in the development of a relational database system, and undoubtedly accounts for the flexibility of the PMMIS to serve users' information needs.

With regard to the collection and reporting of utilization data in managed care programs, both the administration and the plans have demonstrated that credible utilization data can be captured and can play an important role in managing the program. The manner in which states address the significant difficulties inherent in collecting and reporting such data will become increasingly important as the number and size of managed care programs continue to expand in the future.

III. THE OUTCOME ISSUES

Overview

The previous chapter laid out findings with respect to the implementation and operation of the program's major features. This chapter focuses on the outcome assessments:

- What is the overall utilization of medical services under the program? How does it compare to other programs?
  - How do the Medicaid populations in the Arizona Health Care Cost Containment System (AHCCCS) and comparison groups differ?
  - Is utilization by type of beneficiary and by type of service different between AHCCCS and comparison groups?
  - How does the pattern of utilization of medical care services differ between AHCCCS and comparison groups?
- Is there evidence of quality of care problems in the Arizona Long-Term Care System (ALTCS) or of selection bias in the acute care program?
  - Is the incidence of conditions that can indicate lower quality of care different for Medicaid beneficiaries in nursing homes in Arizona as compared to New Mexico?
  - Is there evidence of selection bias in the acute care program?
- What does the AHCCCS program cost and how does that compare to what a traditional Medicaid program would have cost in Arizona?
  - What are the AHCCCS program's actual costs for providing services to AHCCCS beneficiaries not in chronic long-term care?

- How do the AHCCCS program costs for acute care beneficiaries compare against estimates of what an acute care Medicaid program would have cost in Arizona?
- What are the ALTCS program's actual costs for providing services to chronic long-term care beneficiaries?
- How do the ALTCS program costs compare against estimates of what a Medicaid program serving chronic long-term care beneficiaries would have cost in Arizona?

Each of these assessments is discussed in the sections that follow. Each assessment begins with an introduction to the subject area, presents findings, and concludes with policy implications. The ALTCS utilization study is based on ALTCS encounter and claims data, New Mexico Medicaid claims data, New Mexico Coordinated Community In-Home Care (CCIC) claims data, and Medicare claims data. The utilization study for the acute care program uses AHCCCS encounter and claims data and New Mexico Medicaid claims data.

The studies of indicator conditions and selection bias involve several databases. The indicator study is based on a review of nursing home records in fiscal year 1990 (FY 90) and FY 91. The selection bias analysis uses encounter data from the AHCCCS acute care plans in Maricopa County.

The cost analysis uses information obtained from AHCCCS' Department of Business and Finance for AHCCCS actual cost experience. Comparison data used in the acute care analysis are from HCFA-2082s and HCFA-64s for the comparison states. Comparison data used in the long-term care analysis are from HCFA-2082s, HCFA-64s, and HCFA Medicaid Statistical Information System files.

Utilization of Services

Introduction

An analysis of medical care utilization provides important information about the number and types of services being provided within a health care

program. Because utilization of medical care services directly impacts expenses and financial viability, and because utilization can also reflect access to and appropriateness of medical services, a utilization analysis is a critical component of any health care program assessment. Low utilization rates can signal problems with underprovision of services, while high utilization rates can create strain on overall program costs.

Findings

Two separate analyses were conducted as part of the utilization analysis. One focuses on long-term care program (ALTCS) beneficiaries and one on AHCCCS acute care program beneficiaries. For both analyses, the comparison group is fee-for-service Medicaid program beneficiaries in New Mexico. New Mexico was selected as the comparison site because of its similarities with Arizona in terms of geography, climate, population, demographics, and health care resources. Descriptive comparative data from other sources were also collected.

Long-Term Care Beneficiaries

In this analysis, medical care utilization of ALTCS beneficiaries is compared against that of long-term care beneficiaries in a more traditional fee-for-service Medicaid program in New Mexico. The analysis covers medical care services received from January 1, 1991 through September 30, 1992. Services include those provided by the Medicaid programs and by Medicare. Medicare is the first payer on all services covered by the Medicare program for beneficiaries having joint Medicare and Medicaid eligibility.

Delivery Systems

The long-term care delivery systems in Arizona and in New Mexico cover nursing home care as well as home and community-based services (HCBS).

Eligibility for the long-term care program in each state requires that an individual meet specified financial and medical/functional criteria.

ALTCS financial eligibility is up to 300% of the supplemental security income (SSI) level ($1,221 per month in 1991 and $1,226 per month in 1992). Beneficiaries must be certified as being at risk of institutionalization using a preadmission screening tool administered by an ALTCS-employed nurse or social worker in a face-to-face interview with the applicant.

Once deemed eligible for the ALTCS program, beneficiaries are assigned to a long-term care program contractor. AHCCCS contracts with one entity in each county to assume responsibility for providing acute care and long-term care services to elderly and physically disabled (EPD) eligibles within the county. The Department of Economic Security (DES) is required to serve as the long-term care contractor for all mentally retarded/developmentally disabled (MR/DD) beneficiaries statewide. Each contractor is paid an individually-negotiated monthly capitation payment **per enrollee. For** EPD beneficiaries, the capitation rate varies by county but not by any other beneficiary characteristics. During FY 91 and FY 92, there were six EPD contractors serving 13 counties. EPD eligibles in the remaining two counties were covered by AHCCCS's fee-for-service network. For MR/DD beneficiaries during FY 91 and FY 92, the capitation rate paid to DES varied by level of care (SNF, ICF, ICF/MR, HCBS). Upon enrollment, clients are assessed by the contractor and placed in an institution or in a HCB setting.

The income eligibility level for long-term care services in New Mexico is slightly below the 300% of SSI level: $1,043 per month in 1991 and $1,082 per month in 1992. Medical eligibility is determined by the New Mexico Medicaid Professional Review Organization (PRO) under contract with the state. The PRO makes this determination by reviewing an applicant's long-term care assessment abstract form, referred to as the New Mexico Abstraction Form (NMAF). For nursing home clients, the NMAF is completed by long-term care facility personnel. For clients who are expected to receive HCB services, the NMAF is completed by a licensed physician.

Institutional services and HCB services were administered by separate agencies within New Mexico's Human Services Department during the study period. Institutional services were administered by Medicaid, but HCB services, provided under a 2176 waiver, were administered by the CCIC program. Long-term care facilities and HCBS providers are reimbursed per diem or per unit rates set prospectively by the state. Acute care services are reimbursed on a fee-for-service basis according to a fee schedule.

Data

Utilization data examined in Arizona are encounter data submitted by the long-term care program contractors, fee-for-service claims paid by AHCCCS, and Medicare data from the HCFA National Claims History (NCH) database. New Mexico data include both Medicaid paid claims and Medicare data from the NCH database. Medicaid claims are those processed by the New Mexico fiscal intermediary (which was First Health Services during the period of study) and HCBS claims processed by CCIC.

Combining Medicare and Medicaid data is complicated by the different systems for handling joint Medicare/Medicaid (crossover) claims in the two states. In New Mexico, crossover claims are processed separately from other Medicaid claims. The identification of crossover claims in Arizona is problematic because the crossover indicator is incorrectly coded in the encounter data during the study period. In order to correct AHCCCS encounter data for crossover activity, all services received by a given beneficiary with the same service type and service date as a service in the Medicare data files are excluded from the AHCCCS data. For consistency, this exclusion is also performed for the New Mexico data.

Although the reporting of encounter data in AHCCCS has been problematic, collection has improved dramatically since the beginning of the program and has been relatively stable for the last several years. Thus, the data, while not perfect, are generally adequate to use to conduct a utilization analysis. For Arizona MR/DD beneficiaries, data concerning their placement level and

their use of non-institutional services appeared to be of poor quality and are excluded from the analysis.

The study population consists of 18,794 ALTCS beneficiaries with 22,735 person years of coverage, and 9,284 New Mexico long-term care beneficiaries with 9,938 pt-son years of coverage. Beneficiaries who did not receive at least one long-term care service (i.e., nursing home or HCB service) between January 1, 1991 and September 30, 1992 are excluded from the study. Also excluded are beneficiaries enrolled in Medicare nealth maintenance organizations (HMOs).

Results

Utilization is reported as a rate of use per person year of eligibility. Rates of utilization are calculated separately for each type of service. The categorization employed for institutional services is developed from previous classifications and those used by the Minnesota Utilization Data Definitions Committee.[11] The categorization employed for non-institutional services is one adapted from the Urban Institute Type-of-Service Classification System.[12] Institutional services are defined as those which are typically billed on a UB-92 claim form. Non-institutional services are those typically billed on a HCFA 1500 claim form.

The dollar values of the services presented in this analysis are measures of utilization ' that they are the values given by the respective programs to the services received. For Medicare and the New Mexico Medicaid program, they are the dollar amounts allowed by the programs and are therefore directly related to the cost of the programs. For Arizona, this dollar value is not related to the cost of delivering the services. Rather, it is the amount AHCCCS would have allowed in its fee-for-service program for the services received.

Rates of use for institutional services, non-institutional services, and drugs for EPD beneficiaries are presented in Table III-l. As can be seen, units of service for EPD beneficiaries are larger in Arizona than in New Mexico for all types of services except for inpatient hospital, nursing home, institutional home health, and laboratory tests.

Rates of use for institutional services and drugs for MR/DD beneficiaries are presented in Table III-2. MR/DD beneficiaries' institutional and drug utilization are similar in Arizona and New Mexico for inpatient hospital care, home health services, and drugs. Outpatient hospital claims in New Mexico are more than three times the rate in Arizona and the number of nursing home days per person year is 16 times the rate in Arizona. This reflects the lower rate of institutionalization in Arizona as compared to New Mexico. Unfortunately, data that would give us a sense of total dollar equivalences including non-institutional services are not available because of quality problems with the Arizona data that were transmitted from DES to AHCCCS.

When data are broken down by placement (nursing home, HCB care) and Medicare coverage (Medicare/Medicaid, Medicaid only), the same patterns emerge. The total dollar value of services is consistent across states.

	Arizona	New Mexico
Nursing Home Placement		
Medicare/Medicaid Coverage	$30,071 (N=10,767)	$30,029 (N=5,709)
Medicaid Coverage Only	31,943 (N=845)	28,037 (N=791)
HCB Care Placement		
Medicare/Medicaid Coverage	18,860 (N=2,300)	18,810 (N=1,292)
Medicaid Coverage Only	15,125 (N=593)	16,271 (N=421)

These numbers indicate similar intensity of service use in Arizona and New Mexico, especially among dually-eligible beneficiaries. This should be

Table III-1

UTILIZATION PER EPD PERSON YEAR BY STATE AND TYPE OF SERVICE, JANUARY 1991 - SEPTEMBER 1992

	Arizona (N=14,506)		New Mexico (N=8.215)	
	Units	Allowed	Units	-
Institutional				
Inpatient	3.7	$3,764	4.7	$2,804
Outpatient	8.9	1,311	3.9	726
Nursing Home	266.1	18,613	269.7	19,354
Home Health	0.2	140*	0.4	179*
Non-Institutional				
Evaluation and Management	16.4	743	14.9	494
Procedures	5.5	392	3.8	316
Therapies	1.2	64	0.1	2
Tests	6.1	78	15.3	136
Imaging	4.1	108	3.4	96
HCBS	7.9	990	5.6	1965
Other	186.7	1,079	162.1	751
Drugs				
Prescriptions	29.2	508'	25.8	542*
TOTAL		$27,790		$27,365

. Paid amount rather than allowed amount

Table III-2

UTILIZATION PER MWDD PERSON YEAR BY STATE AND TYPE OF SERVICE, JANUARY 1991 - SEPTEMBER 1992

	Arizona (N=8,229)		New Mexico (N=1,722)	
	Units	Allowed	Units	Allowed $
institutional				
Inpatient	1.4	$1,118	1.6	$952
Outpatient	.7	189	2.3	222
Nursing Home	15.5	253	259.4	37,504
Home Health	.2	16*	<.1	22*
Drugs.				
Prescriptions	10.4	190'	10.7	224*
TOTAL		**$1.766**		**$38.924**

- Paid amount rather than allowed amount

encouraging to those concerned about underutilization of services in a capitated system.

In order to assess the impact of the ALTCS program on utilization, five utilization measures (the dependent variables) are examined in a multivariate context. These dependent variables are: inpatient hospital days, outpatient hospital visits, evaluation and management services, procedures, and prescription drugs. Independent variables in the model are placement (HCB care, nursing home), demographic characteristics of the beneficiary (gender, ethnicity, age), characteristics of the beneficiary's eligibility (cash assistance status, Medicare coverage), and state (Arizona, New Mexico). The analysis is conducted in two stages with the first stage modeling the probability of use and the second the amount of use among users. Models are estimated only for EPD beneficiaries because of the data problems for MR/DD beneficiaries. Only statistically significant differences are discussed below.

Below is shown the percent change in the probability of use for observations where State=Arizona, for each of the five dependent variables controlling for the other variables in the logit models.

Inpatient Care	-8%
Outpatient Care	11%
Evaluation and Management Services	2%
Procedures	-7%
Prescription Drugs	3%

Thus, being an EPD beneficiary in Arizona rather than in New Mexico increases the probability of use of outpatient services by 11%, of drugs by 3%, and of evaluation and management services by 2%. The probability of use of inpatient hospital care is reduced by 8% and of procedures by 7%.

Medicare coverage shows a strong positive effect on the incidence of all types of service use. Medicare coverage increases the probability of use by 14% for inpatient care, 29% for outpatient care, 18% for evaluation and management services, 27% for procedures, and 3% for prescription drugs. Other control variables that have more than a 10% effect on any dependent variable

are being in a nursing home, which has a -10% effect on the use of inpatient hospital services, and being over age 85, which has a -11% effect on the use of outpatient hospital services.

The table below shows the impact of State=Arizona on the amount of use among users for each type of service.

	Units	$*
Inpatient Care	-20%	32%
Outpatient Care	46%	51%
Evaluation and Management Services	-5%	31%
Procedures	-38%	-27%
Prescription Drugs	3%	NS

* Allowed amount except for drugs for which it is paid amount
NS Not significant

Among service users, being-in ALTCS rather than the New Mexico Medicaid program is associated with fewer procedures and more outpatient claims. The number of days of inpatient hospital stays is also smaller, although allowed charges for inpatient hospital stays are larger. The number of evaluation and management services is slightly smaller, but the allowed charges for these services are larger. Arizona has slightly more prescriptions among prescription users, but there is no significant difference in the paid amounts for drugs in the two states.

Note that the descriptive data (Table III-l) show a larger mean procedure use rate in Arizona than in New Mexico while the multivariate analysis results indicate a significant smaller probability of use and a smaller amount of use among users in Arizona than in New Mexico. The multivariate models (both the probability of use and the amount of use among users) correct for differences in placement, demographic characteristics of the beneficiary, and characteristics of the beneficiary's eligibility. In addition, the analysis of the amount of use among users logs the dependent variable, which reduces the impact of outliers. Thus, the multivariate models results provide a better estimate of the effect of state on the use of services.

Medicare coverage has a pronounced effect on the amount of use among users, resulting in substantial increases for all types of service except inpatient hospital days. Allowed charges for evaluation and management services and outpatient claims, and number of procedures are more than 50% larger for those with Medicare coverage, controlling for the other variables in the models.

Being in a nursing home placement, where significant, decreases the amount of use among users except for allowed dollars for evaluation and management services. Being female increases use, where significant. Whites and Hispanics tend to be smaller users of procedures, inpatient days, and outpatient claims, but larger users of evaluation and management services than non-white, non-Hispanic beneficiaries who use these services. Older age groups have consistently less use of services among users. Those receiving cash assistance also use a smaller number of services, where cash assistance has a significant impact.

Acute Care Beneficiaries

This analysis compares AHCCCS acute care beneficiary utilization against New Mexico Medicaid acute care beneficiary data and other comparative data. The New Mexico program is a more traditional fee-for-service program, which during the two-year period of the study from October 1, 1990 through September 30, 1992, introduced a primary care case management program. Of substantial interest in the analysis is the extent to which managed care systems such as AHCCCS deliver care more rationally than traditional fee-for-service delivery systems.

Data

The analysis is based on encounter and claims data for AHCCCS beneficiaries and claims data for New Mexico Medicaid beneficiaries. Because of the large number of eligible beneficiaries, a five percent random sample of

beneficiaries was selected. Those with Medicare eligibility and those receiving chronic long-term care services are omitted from the study population. In Arizona, beneficiaries having state-only eligibility and those not enrolled with a prepaid plan are also omitted.

Results

Utilization is reported as a rate of use per person year of eligibility. Rates of use are calculated separately for each type of service using essentially the same classification scheme as described above for long-term care services. Modifications to the classification scheme are made to account for maternity services. As with the long-term care analysis, allowed charges are amounts allowed by the New Mexico Medicaid program in New Mexico and amounts that AHCCCS would have allowed if the service was provided in the fee-for-service part of the program. Because of this, allowed charges cannot be considered a measure of cost to the programs but rather an intensity of use measure.

Utilization rates appear to behave as expected when comparing a Medicaid managed care program against a fee-for-service program, except for the Sixth Omnibus Budget Reconciliation Act (SOBRA) eligibility group. One reason for this is that New Mexico restricted coverage for pregnant women with incomes greater than the federal poverty level to pregnancy-related services only. Thus, the findings focus on the Aid to Families with Dependent Children (AFDC) (Table 111-3) and the SSI (Table 111-4) eligibility groups.

The number of hospital days is smaller in Arizona than in New Mexico. The average number of procedures is also smaller in Arizona, as is the number of outpatient services and the number of imaging services. Evaluation and management services are about the same in Arizona and New Mexico for AFDC beneficiaries and larger in Arizona for SSI beneficiaries. More tests are performed in Arizona than in New Mexico.

Table III-3

UTILIZATION OF SERVICES PER AFDC PERSON YEAR BY STATE AND TYPE OF SERVICE, FY 91 - FY 92

	Arizona (N=16,181)		New Mexico (N=9,272)	
	Units	Allowed	Units	Allowed $
Institutional				
Inpatient	0.6	$452	1.0	$557
Outpatient	0.8	180	1.8	194
Nursing Home	0	0	0	0
Home Health	0	0'	<.1	6*
Non-institutional				
Evaluation and Management	5.3	187	5.5	147
Procedures	0.9	121	1.2	84
Therapies	0.1	40	0.1	21
Tests	2.2	27	1.9	21
Imaging	0.6	25	0.7	24
HCBS	<.1	1	0	0
Other	6.6	59	2.9	66
TOTAL		**$1,092**		**$1,120**

* Paid amount rather than allowed amount

Table III-4

UTILIZATION OF SERVICES PER SSI PERSON YEAR BY STATE
AND TYPE OF SERVICE, FY 91 - FY92

	Arizona (N=l ,968)		New Mexico (N=1,652)	
	Units	Allowed	Units	Allowed $
Institutional				
Inpatient	1.8	1,900	4.5	2,481
Outpatient	2.0	558	3.1	503
Nursing Home	0.3	24	<.1	1
Home Health	<.1	1*	0.1	79*
Non-Institutional				
Evaluation and Management	11.8	400	9.3	260
Procedures	1.3	267	2.7	171
Therapies	<.1	9	<.1	6
Tests	5.3	78	4.5	56
Imaging	1.8	101	2.0	89
HCBS	0.4	11	0	0
Other	16.3	215	9.6	335
TOTAL		$3,564		$3,981'

* Paid amount rather than allowed amount

Tables III-3 and III-4 include data on allowed charges as well as units of service by type of service. What is of interest is the correspondence of the total dollars between Arizona and New Mexico for AFDC beneficiaries and the relative similarity between Arizona and New Mexico for SSI beneficiaries. In AHCCCS, the average amount is $1,092 per person year for an AFDC beneficiary and $3,564 per person year for an SSI beneficiary. The dollar amounts in New Mexico Medicaid are very close to those in Arizona for AFDC beneficiaries, $1,120 per person year, and 12% larger for SSI beneficiaries, $3,981 per person year.

In general, New Mexico has a larger percentage of its expenditures for institutional services and a smaller percentage for non-institutional services than Arizona. This is consistent with the distribution of resources that would be expected in a managed care program as compared to a fee-for-service program.

In addition to examining New Mexico program data, comparison data were sought from other sources: Medicaid managed care programs, Medicaid fee-for-service programs, managed care groups, and general population surveys. Data collected from other Medicaid managed care programs include information on their organization and structure, encounter data reporting requirements, and state reported uses for the data collected. Disappointingly, only three Medicaid managed care states were found to have data that could be used for comparison with AHCCCS: Minnesota, Ohio, and Wisconsin. All of these data are from aggregate reports collected from the health plans by the three states.

Data for comparison were also secured from the Medicaid fee-for-service program and several national surveys. These surveys include the National Health Interview Survey, the National Hospital Discharge Survey, the National Medical Expenditure Survey, the American Hospital Association Survey, the National Ambulatory Medical Care Survey, the National Hospital Ambulatory Medical Care Survey, and the Group Health Association of America's HMO Industry Survey.

In general, review of the data from other sources is consistent with the pattern hypothesized for managed care and found in the Arizona and New Mexico comparison. Arizona utilization rates and rates reported by other Medicaid managed care programs tend to be smaller with respect to the number of inpatient hospital days and approximately the same or a little larger with respect to the number of physician services.

Emergency room services, laboratory services, and imaging services are often hypothesized to be less utilized in managed care. The findings, however, show this pattern consistently only for imaging services. Emergency room use is about the same in Arizona and New Mexico and the rate of tests is smaller in New Mexico than in Arizona. Comparative utilization information about these categories of service from other sources were not located. Some of the comparison limitations result from difficulties in assuring that categories have been defined in the same way across data sources.

Policy Implications

Lack of data on the part of other Medicaid managed care programs should be an area of concern not only because it represents an unfulfilled state requirement but also because of its critical importance in managing these programs. Encounter data are necessary for monitoring utilization and access, for financial analysis and rate setting, for quality of care review, and for overall program planning. States seem to be far behind in their interest in assuring that such data are available. In addition, little leadership and assistance have been available from the federal government to set national standard definitions and to provide technical assistance in achieving functioning data systems. If managed care is to be given an opportunity to be a success in Medicaid, activities of this type that are necessary to create a workable managed care infrastructure are of critical importance.

Utilization rates that are not large enough as well as those that are too large are cause for concern. Consumer advocates often argue that managed care needs to be closely monitored for potential underutilization of services. They are suspicious that as financial incentives tend to favor minimal use of

services, individuals may not get the services needed. The utilization analysis findings indicate that there seems to be no real evidence of this phenomenon in AHCCCS. Average consumption of services seems robust. Economies are in expected areas, especially in reductions in hospital stays. Given that this analysis is based on the submission of encounter data, submission that some assume is underreported, it is especially unlikely that there is widespread underutilization of services. If underreporting exists in Arizona, this would in turn further reduce the likelihood that there is underutilization.

Examining utilization of medical care services by beneficiaries in AHCCCS and in the New Mexico Medicaid program enables observation of service use within two different organizational systems of service delivery. Patterns of use observed in Arizona seem more consistent with a managed care environment than those observed in New Mexico. Beneficiaries in Arizona have a smaller number of inpatient hospital days and less procedure use than those in New Mexico. Overall intensity of service use seems similar across the states, but the kinds and distribution of services used to meet the needs of the beneficiaries differ. Rationalization of the delivery system into a more integrated model and of the financing system to a capitated mode seems to provide a workable alternative to traditional fee-for-service models, one that will likely provide a different distribution of service use, de-emphasizing the use of institutional services and specialty care.

Special Studies

Indicator Study

Introduction

Assessment of the quality of patient care in ALTCS is important and central to an evaluation of the program's performance. At the same time, it is a difficult assignment. Under the best circumstances, quality in health care is an elusive concept. The nature of long-term care makes it particularly difficult to define quality and to assess its presence.

One long-term care quality assessment strategy is an indicator study that examines the rate of occurrence of selected indicator events in nursing homes. EPD beneficiaries in ALTCS and in the New Mexico Medicaid program are compared. Careful attention was given to the most appropriate possible comparison groups. Demographic and other characteristics, cognitive, physical, and functional status characteristics of the two populations are analyzed. The incidence of indicator events associated with quality of care are examined. These indicator events are: decubitus ulcers, falls, fractures, fevers, indwelling urinary catheter use, offering influenza vaccine, and prescribing psychotropic drugs.

Findings

The medical records of randomly selected EPD nursing home residents in randomly selected nursing homes in ALTCS and in the New Mexico Medicaid program were coded at the nursing homes. The sample includes those who were residents in the same nursing home for 12 months over the period January 1, 1990 through December 31, 1991 in selected urban and rural areas. Random samples of individuals were chosen in each area. Areas in Arizona were Maricopa County (urban), Pima County (urban), and Yavapai County (rural), where 150, 200 and 150 people respectively were selected for the sample. The comparison samples in New Mexico were composed of 200 people in Bernalillo County (urban) and 150 people from a combination of Santa Fe and San Miguel counties (rural). Reserve samples to be used if the primary samples were not available were chosen for each facility that was to be visited.

Four full-time abstractors and a part-time abstractor led by a full-time field project manager comprised the abstraction team. The same team reviewed the nursing home records in Arizona and in New Mexico and coded a set of predetermined elements defined in an abstraction form. Questions about coding were reviewed by the abstraction team and the project manager. Twenty nursing homes in New Mexico and fifty-one nursing homes in Arizona were visited. Only 5 of the 350 records coded in New Mexico and 8 of the 500 records coded in Arizona were from the reserve sample. Thus, 99% of the primary sample was successfully coded.

Information coded includes patients' demographic and other characteristics; cognitive status, physical assessment and mobility assistance device use at the beginning and end of the assessment period; bladder and bowel continence at the beginning and end of the assessment period; activities of daily living (ADLs) (mobility, transfers, feeding, dressing, bathing, toileting and personal hygiene) at the beginning and end of the assessment period; and the incidence of the indicator conditions during the assessment period.

Except for ethnicity, demographic characteristics (age, gender, and marital status) in the two groups are similar. The New Mexico group contains substantially more Hispanics (46% versus 11%). With respect to other characteristics, Arizona has a larger percentage of beneficiaries with a do-not-resuscitate order (73% versus 63%), and New Mexico has a larger percentage of beneficiaries who had been offered an influenza vaccine (83% versus 75%). There is no significant difference between the states with respect to their disposition at the end of coding (in facility, died, or other) or in the number having one or more hospital stays. However, the mean number of days of hospitalization for those with one or more hospital stays is greater in New Mexico than Arizona (7.2 days versus 6.0 days). Arizona beneficiaries have more routine drugs, more PRN (i.e., as needed) drugs prescribed, and more PRN drugs received than those beneficiaries in New Mexico. Mean rates are 5.1 routine drugs, 3.6 PRN drugs prescribed, and 2.2 PRN drugs received in Arizona. This compares to 4.5 routine drugs, 2.4 PRN drugs prescribed, and 1.7 PRN drugs received in New Mexico.

The samples are not significantly different with respect to cognitive status. Average weight in the New Mexico sample is significantly smaller than in Arizona (120 pounds versus 129 pounds at beginning assessment and 127 pounds versus 117 pounds at ending assessment) and the percentage using wheelchairs is larger in New Mexico (36% versus 21% at beginning assessment and 32% versus 21% at ending assessment). Bladder and bowel continence measures show more disability among Arizona nursing home residents although the differences are not consistently significant.

ADLs were coded using the Minimum Data Set (MDS) definitions. ADL MDS definitions are those used by HCFA for recording ADL status of nursing home beneficiaries. Arizona beneficiaries exhibit more severe ADL limitations. In beginning assessments, Arizona beneficiaries are **more severely limited than New** Mexico beneficiaries in mobility, feeding, and toileting. In ending assessments, Arizona beneficiaries are more limited than New Mexico beneficiaries in mobility, transfers, bathing, toileting, and personal hygiene.

The incidence of the indicator events is examined using both descriptive and multivariate analyses. Logistic regressions are estimated with the indicator condition as the dependent variable. Control variables include urbanization, ethnicity, and number of ADLs needing assistance in all models. Also included in each individual model are selected functional and cognitive status variables hypothesized to affect the particular dependent variable.

Table III-5 shows the control variables in the model and the marginal probability of the effect of State=Arizona for each indicator condition. Multivariate analyses are not conducted on fractures because of the small number in both states. Descriptive analyses indicate no significant difference in the states.

To summarize, the analysis results indicate that nursing home residents in the ALTCS program are more likely to experience a decubitus ulcer, a fever,' and a catheter insertion than nursing home residents served by the New Mexico Medicaid program. ALTCS nursing home residents are also less likely to be offered influenza vaccine than Medicaid nursing home residents in New Mexico. There are no significant differences between nursing home residents in ALTCS and those in New Mexico Medicaid with respect to the incidence of patient falls or fractures or in the use of psychotropic drugs.

Policy Implications

Although the results of the evaluation suggest a lower quality of care for ALTCS nursing home residents than for Medicaid nursing home residents in New Mexico, caution must be exercised in generalizing the findings.

Table III-5

LOGIT REGRESSION CONTROL VARIABLES AND RESULTS FOR EACH INDICATOR CONDITION ANALYZED

indicator Condition	Control Variables in Model	Marginal Probability State = Arizona
Decubitus Ulcer	Urbanization Ethnicity Number of ADLs Needing Assistance Mobility ADL Bladder Control	.13
Fall	Urbanization Ethnicity Number of ADLs Needing Assistance Transfer ADL Wheelchair Cane Walker Cognitive Status	NS
Fever	Urbanization Ethnicity Number of ADLs Needing Assistance Cognitive Status Mobility Catheter Decubitus Ulcer	.14
indwelling Urinary Catheter Use	Urbanization Ethnicity Number of ADLs Needing Assistance incontinence Cognitive Status	.07
Psychotropic Drug Prescribed	Urbanization Ethnicity Number of ADLs Needing Assistance Depression Diagnosis	NS

NS Not significant

Quality of care for patients receiving care under ALTCS is of paramount importance in assessing the usefulness of the system. While this study finds significantly lower quality of care on some quality indicators in ALTCS as compared with the New Mexico Medicaid program, the results need to be interpreted cautiously. Although the results are meaningful and valid, it should be acknowledged that the findings could have been influenced by the decisions about sample selection, by methods chosen to collect the data, by less than perfect quantification of the independent variables, and by the choice of quality indicators.

The lower quality of care found for certain indicators in ALTCS must also be balanced against the limited evidence that suggests the quality of care may be higher than national averages for the indicator conditions in both states. In addition, the lack of data on the quality of care in Arizona pre-ALTCS should be taken into account. The short amount of elapsed time from the start of the ALTCS program until the study was conducted should also be considered. This elapsed time may not be sufficient for improvements in the quality of care to be measurable. Finally, it should be remembered that the nursing homes are paid per diem rates under both ALTCS and the New Mexico Medicaid program. If quality is basically controlled by the nursing home, this would suggest that financial incentives are essentially the same under both systems. In summary, the findings are provocative but further investigation is warranted before concluding that a capitated system for long-term care leads to lower quality of care.

Selection Bias

Introduction

Policymakers and researchers have long recognized the possibility of selection bias as an important problem in health services markets where beneficiaries are offered a choice among plans. To fully evaluate bids

offered by competing plans, program administrators ideally would want information about the extent to which rate differences reflect variation in enrolled population risk or in plan performance along dimensions such as efficiency, accessibility of services, or quality of care. However, distinguishing the effects of these two sets of factors is difficult because characteristics that determine the demand for care may simultaneously influence the choice of plan.

Previous research on risk selection in programs where Medicaid beneficiaries are offered a voluntary choice between prepaid and fee-for-service care have yielded mixed results. However, differential selection will likely be less pronounced in programs with mandatory enrollment in prepaid care, where beneficiaries choose between different prepaid plans. This study of AHCCCS presents an opportunity to study this type of program setting, which is relatively unexplored in the selection bias literature, but of growing policy importance. It also illustrates an evaluation design, based on the natural experiment created by the random assignment of certain beneficiaries to a plan, that may be of interest to other Medicaid programs.

Findings

While AHCCCS beneficiaries are generally allowed to select a plan, in practice a large proportion are assigned, including those who do not exercise their option to choose. Most assigned beneficiaries are randomly distributed among the contracting plans that serve their zip code using a computer algorithm that allocates proportionately larger shares to plans with lower capitation rates within their bid rate category.

Plan effects, measured by utilization differences in the randomly assigned group, are used to isolate utilization differences in the non-random group[13] that are attributed to selection effects. This evaluation strategy is

illustrated in the following matrix, which classifies beneficiaries by plan and random assignment status, where M measures utilization of medical care.

	Plan 1	Plan 2
Random	M_{RP1}	M_{RP2}
Non-random	M_{NRP1}	M_{NRP2}

Plan 2 experiences adverse selection if $(M_{NRP2}-M_{NRP1})-(M_{RP2}-M_{RP1})>0$. The first term represents the gross utilization difference between non-randomized beneficiaries in the two plans, due to both plan and selection effects, while the second term is the difference in plan effects. The "difference-in-differences" is an estimate of selection effects alone.

This evaluation design is represented by the following model:

$$M_i = f(PLAN_{ij}, NON\text{-}RANDOM_i, NON\text{-}RANDOM_i * PLAN_{ij}),$$

where PLAN is a vector of dummy variables describing plan j that equal 1 if person i is enrolled in plan j, NON-RANDOM is a dummy variable that equals 1 if person i is not randomly assigned, and NON-RANDOM*PLAN is a vector of dummy variables representing the interaction of NON-RANDOM and PLAN. Selection effects are measured by the coefficient on $NON\text{-}RANDOM*PLAN_j$; if the coefficient is greater for plan j than for plan k, then plan j experiences adverse selection relative to plan k.

The evaluation uses utilization data for a five percent random sample of acute care beneficiaries with some eligibility during FY 91 and FY 92, October 1, 1990 through September 30, 1992. The study sample is limited to beneficiaries in Maricopa County (the largest Arizona county) enrolled in the five capitated plans that contracted with AHCCCS during the study period and served the entire county. Separate regressions are estimated for AFDC-eligible adults, AFDC-eligible children, and the Children's Care Program (CCP).[14]

The analysis shows no strong, consistent pattern of differential selection among the five plans studied. Below is shown the percent difference by plan between predicted annualized medical expenditures for non-randomized beneficiaries, controlling for plan effects.

	AFDC Adults	AFDC Children	CCP
Plan 1	25	3	(10)
Plan 2	12	(6)	7
Plan 3	(11)	(5)	(11
Plan 4	(17)	12	(1)
Plan 5	(46)	(8)	12

The greatest risk selection is found among AFDC adults, with Plan 5 enrolling a substantially less costly population. Controlling for the effect of plan characteristics on utilization, predicted expenditures for non-randomized adults in Plan 5 are 46% less than they would have been if their characteristics were the same as those of non-randomized AFDC adult beneficiaries in all plans. Plan 1 experiences adverse selection, enrolling non-randomized beneficiaries with predicted expenditures 25% larger than they would have been if their characteristics reflected the average for all non-randomized beneficiaries. For children in the AFDC and CCP rate categories, the variation in expected expenditures between plans that is explained by differences in the characteristics of non-randomized beneficiaries is 12% or less for all five plans.

Some analyses include a set of variables for demographic and other beneficiary characteristics believed to affect utilization. These variables, which can be interpreted as potential risk adjusters, measure selection on observable beneficiary characteristics. In this version of the model, the coefficients on NON-RANDOM*PLAN measure remaining selection due to differences in unobservable beneficiary characteristics, such as their health status or the likelihood that they will seek care. Distinguishing between the effects of observable and unobservable characteristics tests whether risk adjustments based on a limited set of beneficiary characteristics are adequate compensation for overall selection bias. The results of these analyses indicate that this is not necessarily the case. In some instances, there is differential selection attributed to unobservable characteristics, but not to

observable characteristics. In others, observable and unobservable characteristics have opposing effects.

Although it is not a typical dimension of selection bias, the relative shares of randomized and non-randomized beneficiaries are a major component of the difference between plans in enrollee risk. The proportions of these two types of enrollees differed significantly by plan and in all three analyses the randomized group is substantially less costly than the non-randomized group. Among AFDC adults, randomized beneficiaries' expenditures are roughly one-third less than those of non-randomized. The disparity is even greater among children. Randomized beneficiaries have predicted expenditures that are approximately 40% below those of non-randomized beneficiaries for AFDC children and less than half for CCP children.

Policy Implications

Based on these findings, particularly for children, it does not appear that selection bias among enrollees who are not randomly assigned to a health plan is a serious problem in AHCCCS. However, this analysis provides conservative estimates of selection bias because the randomly assigned beneficiaries are compared against all other beneficiaries including those who are assigned by rule (i.e., newborns to their mother's plan, new enrollees to a family member's plan, etc.). Furthermore, some results that are indicative of more serious selection problems are imprecisely estimated. There is some evidence suggestive of selection favoring Plan 5, which is the newest entrant to AHCCCS of the plans studied. This favorable selection may, therefore, be a cohort effect that will lessen over time. Furthermore, a program may want to pay new entrants rates that are relatively profitable if it is interested in encouraging the participation of new plans.

There are large differences in the expected costs of randomized and non-randomized beneficiaries as well as differences in the distribution of randomized and non-randomized beneficiaries across plans. Nonetheless it is not necessarily desirable to adjust rates to reflect the higher costs of

beneficiaries who exercise their option to choose compared to beneficiaries who are assigned. The comparative profitability of assigned beneficiaries may provide AHCCCS with leverage to negotiate lower payment rates because the proportion of assigned beneficiaries allocated to a plan depends on the rank of its capitation rates compared to other plans in the county.

Although it is important to ensure that plans are fairly compensated for differences in enrolled population risk, this concern needs to be balanced against factors such as the administrative complexity of having a large number of rate categories and the loss of revenue predictability for plans if capitation rates are continually adjusted to reflect each year's experience. Care also must be taken that any adjustments made for risk differentials do not exacerbate inequities in plan payment rates. For example, if the effects of selection on unobservable and observable characteristics operate in opposing directions, adjusting payment rates for observable characteristics alone could create greater competitive inequality than if no adjustment were made.

The methodology used to evaluate selection bias may serve as a prototype for other programs. The natural experiment on which this analysis is based arose because a large number of beneficiaries did not exercise their option to choose a plan and AHCCCS needed a policy for assigning them to one. It is likely that other capitated Medicaid programs will need to make a similar policy decision. If so, randomization of beneficiaries across plans is an appealing alternative because it provides a built-in mechanism for monitoring plan performance.

Cost of the Program

Introduction

Of substantial importance in an assessment of an innovative program is a review of its cost experience. AHCCCS program costs are recorded separately for its acute care program, which has served eligible beneficiaries since FY

83, and its long-term care program, ALTCS, which was incorporated into AHCCCS in FY 89.

A primary goal of AHCCCS is to deliver high-quality care to Medicaid eligibles at a cost no greater than would be required to support a traditional fee-for-service Medicaid program in the state. The objective of this cost analysis is to compare AHCCCS,' actual cost with the cost that would have incurred under a traditional Medicaid program in Arizona.

Findings

Comparing the cost of the AHCCCS program to what estimates of a traditional Medicaid program would have cost in Arizona presents a number of conceptual and practical difficulties. In order to make an estimate of what a traditional Medicaid program would have cost, comparison groups composed of other state Medicaid programs are used. Each state Medicaid program can differ on important features of eligibility, service provision, and provider reimbursement. All these differences affect program costs. In the analysis, these difficulties are addressed by carefully selecting comparison states that, to the extent possible, take account of these differences. The results for the AHCCCS acute care program are summarized first. This is followed by a summary of the results for the ALTCS program.

AHCCCS Acute Care Program

The AHCCCS acute care program has been operating since FY 83. Detailed results for cost comparisons for the II-year period from FY 83 to FY 93 have been presented in the reports listed in Appendix A. These cost comparisons compare the actual costs incurred by AHCCCS to the estimated costs of a traditional Medicaid program in Arizona. The analysis includes only AFDC and SSI eligibility groups. Other eligibility groups added to the Medicaid program since FY 83 such as SOBRA beneficiaries and eligibility groups that do not have uniform eligibility characteristics across the states, such as the

state medically indigent and medically needy beneficiaries, are not included in this analysis. In addition, costs reported excluded Indians on reservations and one-time costs for Arizona-specific administrative expenses.[15]

AHCCCS program costs include the following components:

- Capitation payments to plans – Payments from the AHCCCS administration to the participating health plans for the provision of care on a prepaid capitated reimbursement basis.

- Fee-for-service claims – Payments from AHCCCS to hospitals, physicians, and other providers for services rendered to program eligibles not enrolled in prepaid plans. Reimbursement for physician and other non-hospital services is based on a capped fee schedule. Reimbursement for inpatient hospital services is based on a tiered per diem system. Reimbursement for outpatient hospital services is based on hospital specific cost-to-charge ratios.

- Reinsurance claims – Payments from AHCCCS to participating plans for claims incurred by the plans in excess of a maximum for an individual member during a 12-month contract-year period.

- Deferred liability claims – Payments from AHCCCS to participating plans for claims incurred by plans for persons in a hospital when enrolled in a plan, and for specified conditions. AHCCCS has discontinued the payment of deferred liability for claims with service dates after September 30, 1993.

- Medicare Part B premiums – Payments by the state for Supplementary Medical Insurance premiums to buy-in AHCCCS eligibles who were also eligible for Medicare into Part B of Medicare.

- Disproportionate share hospital payments – Payments from AHCCCS to hospitals in Arizona to compensate for the hospital serving a disproportionate share of low income patients.

- Third-party recoveries – Costs recovered by AHCCCS from liable third parties (e.g., worker's compensation, auto insurers for car accidents, etc.). These amounts are offsets to costs incurred by the AHCCCS program.

- Administrative costs – Expenditures related to administration of the AHCCCS acute care program.

The cost of a traditional Medicaid program is estimated as the adjusted average per capita cost for a set of comparison states. The methodology involves the following steps:

(1) select a group of comparison states based on the quality of the cost and eligibility data available for each state and the similarity of the Medicaid programs to Arizona's;

(2) calculate per capita medical costs for each eligibility group (AFDC, SSI aged, SSI blind, and SSI disabled);

(3) adjust the per capita costs to account for differences between the comparison states and Arizona; and

(4) estimate administrative costs for a traditional program.

The group of comparison states was selected based on two criteria: the quality of the cost and eligibility data available, and the similarity of the Medicaid programs to Arizona's. There are 13 comparison states for the AFDC eligibility category and 20 comparison states for the SSI aged, SSI blind, and SSI disabled categories.

The second step in estimating the cost of a traditional program is to calculate the per capita medical cost for each eligibility category and state. The sources of data for estimating traditional program costs are the HCFA-64 and HCFA-2082 federal reports.[16] The expenditure distribution by eligibility category from the HCFA-2082 is used to distribute the expenditures reported on the HCFA-64 among the eligibility categories. Monthly per capita costs are calculated for each category of eligibility and averaged across the comparison states.

The third step in determining traditional program cost is to adjust the per capita costs for differences between the comparison states and Arizona. Adjustments are made for geographical variations in medical service cost, for the effect of dual Medicare eligibility (for SSI eligibles), to reduce the impact of outliers by truncating any values of per capita cost that are greater than 1.5 standard deviations from the mean, and to convert the per

capita costs for the comparison states from cash basis reporting to an incurred costs basis.

The fourth step is to estimate the administrative costs for a traditional Medicaid program in Arizona. The average administrative costs in all of the comparison states are calculated from the Medicaid Financial Management Reports submitted to HCFA.

The table below shows the actual monthly medical service costs and the estimated monthly medical service costs for a traditional Medicaid program in Arizona in FY 93. It also shows the administrative cost percentages (i.e., administrative cost as a percentage of medical service costs) for the year.

	Actual	Estimated	Difference
Medical Service Costs ($)	$186.10	$209.71	($23.61)
AFDC	140.06	146.48	(6.42).
SSI			
Aged	241.09	283.78	(42.69)
Blind	353.08	301.76	51.32
Disabled	419.70	533.03	(113.33)
Administrative Costs (%)	8.2%	3.5%	4.7%

Amounts estimated that would have been expended for medical services under a traditional Medicaid program are consistently larger than those for AHCCCS, especially for disabled SSI beneficiaries. However, administrative costs in a traditional program are estimated to be smaller.

In FY 93 the incurred costs of the AHCCCS acute care program, including medical and administrative costs for AFDC and SSI eligibles, were $613.8 million. The cost of a traditional Medicaid program for FY 93 in Arizona is estimated to be $661.6 million. Thus, AHCCCS cost $47.8 million (7.2%) less than a traditional program in FY 93.

The AHCCCS acute care cost savings results for medical costs are summarized in the table below, which provides data for three time periods:

the first year of the program, FY 83; the next five years (the second through sixth years of the program), FY 84-88; and the succeeding five years (the seventh through eleventh years of the program), FY 89-93.

	Average Amount of Savings per Year (in millions)	Average Savings as Percent of Traditional Program
FY 83	$(1.8)	(2.3%)
FY 84 - FY 88,	9.3	7.5%
FY 89 - FY 93	52.3	12.8%
Total FY 83 - FY 93	27.8	11.2%

For medical costs only, i.e., costs not including program administration, AHCCCS had $1.8 million greater costs than a traditional program for the first year. For the Years 2-6, AHCCCS averaged cost savings of $9.3 million a year, or 7.5% of the cost of a traditional program. For Years 7-11 of the program, AHCCCS averaged cost savings of $52.3 million per year, or 12.8% of traditional program costs.

A similar cost-saving pattern holds for total costs (medical service costs plus administrative costs), although the net savings are smaller.

	Average Amount of Savings per Year (in millions)	Average Savings as Percent of Traditional Prooram
FY 83	$(3.7)	(4.5%)
FY 84 - FY 88	4.7	3.6%
FY 89 - FY 93	35.4	8.3%
Total FY 83 - FY 93	17.9	6.9%

This is due to the larger administrative costs of the AHCCCS program as compared to traditional Medicaid. For the first year, FY 83, AHCCCS costs were greater than traditional program costs by 4.5%. During Years 2-6, the total costs of AHCCCS were smaller by 3.6% per year. During the Years 7-11, AHCCCS costs were smaller by an average of 8.3% per year, with savings of $35 million per year.

Table III-6 compares medical care savings and administrative cost excess in the AHCCCS program by year. Net savings have been estimated to have been

Table III-6

AHCCCS ACUTE CARE PROGRAM SAVINGS IN THOUSANDS, FY 83 - FY 93

	Medical Care Savings	Administrative Excess	Net Savings
FY 83	($1,768)	($1,910)	($3,678)
FY 84	3,185	(452)	2,733
FY 85	10,679	(1,197)	9,482
FY 86	6,535	(6,530)	4
FY 87	11,807	(8,354)	3,453
FY 88	14,424	(6,633)	7,791
FY 89	30,820	(10,728)	20,092
FY 90	27,036	(10,996)	16,040
FY 91	70,690	(20,083)	50,607
FY 92	61,004	(18,605)	42,399
FY 93	71,960	(24,143)	47,817
TOTAL SAVINGS	306,372	(109,631)	196,740

realized since the second program year. Over the 11 years studied, $197 million have been saved. The program resulted in losses relative to estimates of the cost of a traditional program in Arizona only in the first program year, FY 83. During the first years of the program, the savings were more moderate. Savings generated were less than $20 million per year until FY 89. Savings were $20 million in FY 89 and $16 million in FY 90. Since FY 91, savings estimates have been $40 - $50 million per year.

The overall conclusion is that the AHCCCS acute care program has produced cost savings of approximately 11% of medical costs and 7% of total costs (medical services and administrative), compared to a traditional Medicaid program in Arizona. Notwithstanding the numerous assumptions that are necessary to estimate the cost of a traditional program, it appears that the AHCCCS program has savings in every year except for the first year of the program. In addition, AHCCCS has been successful in holding the rate of increase in costs below the comparable rate of increase in costs for a traditional program.

The AHCCCS acute care program has been successful in containing cost increases below those experienced in the comparison states. Since the first year of the program, FY 83, to FY 93, AHCCCS' average per capita cost increased 138% while the average per capita cost in the comparison states increased 166%, a difference of 28 percentage points in the rate of increase. For the period from FY 83 to FY 93, the average annual increase in AHCCCS per capita cost was 9.1%, compared to 10.3% for a traditional Medicaid program in Arizona.

Another conclusion is that Arizona has had higher administrative costs, as a percentage of medical costs, than traditional program estimates. It is possible that Arizona will continue to experience administrative costs that are somewhat greater than the average of other Medicaid programs. However, the savings in medical costs outweigh the larger administrative costs so that total costs (medical plus administrative) are estimated to be seven percent below the total costs in a traditional program.

93, the average annual increase in ALTCS per capita cost was 4.0% compared to 9.6% for a traditional program in Arizona.

Separate analyses are done of the two main ALTCS eligibility groups: the EPD and the MR/DD eligibles. As shown in Table 111-8, the ALTCS incurred cost for EPD eligibles is 3% less in FY 89, 0.4% more in FY 90, 15% less in FY 91, 22% less in FY 92, and 20% less in FY 93 than the estimated cost of a traditional Medicaid program. The per capita ALTCS cost for EPD eligibles, compared to a traditional program, is 11% more in FY 89, 10% more in FY 90, 3% more in FY 91, 7% less in FY 92, and 8% less in FY 93. However, the number of months of ALTCS eligibility for EPD beneficiaries is estimated to be 13% less in FY 89, 9% less in FY 90, 17% less in FY 91, 16% less in FY 92, and 13% less in FY 93, compared to a traditional Medicaid program. Thus, even though the cost per user is greater under ALTCS in FY 89, FY 90, and FY 91, there are savings for the EPD component of the ALTCS program because there are a smaller number of EPD users of long-term care services under ALTCS, compared to the estimated number of traditional program users. This smaller number of EPD users of long-term care services could be the result of a more stringent preadmission screening procedure in Arizona relative to the comparison states.

For MR/DD eligibles, the ALTCS incurred cost is 15% less in FY 89, 30% less in FY 90, 17% less in FY 91, 23% less in FY 92, and 23% less in FY 93. Compared to a traditional program, the MR/DD per capita cost is 18% less in FY 89, 31% less in FY 90, 34% less in FY 91, 39% less in FY 92, and 34% less in FY 93. The number of ALTCS MR/DD eligibles is 5% more in FY 89, 1% more in FY 90, 25% more in FY 91, 25% more in FY 92, and 16% more in FY 93, compared to the estimated number of MR/DD users in a traditional program.

Results from the Arizona long-term care experience indicate that EPD costs for the program are about equal for FY 90 and less than the estimates of a traditional program's cost in Arizona for FY 89 and for FY 91 through FY 93. The average cost per EPD user is more in FY 89, FY 90, and FY 91 than the traditional program estimate, but less in FY 92 and FY 93. The number of months of use is less than the traditional estimate for all years.

ALTCS program.costs include the following:

- Capitation payments
- Fee-for-service claims
- Reinsurance claims
- Medicare Part B premiums
- Third-party recoveries
- Disproportionate share hospital payments
- Administrative costs

The estimates of the cost of a traditional long-term care program in Arizona are based on expenditures, numbers of eligibles, and long-term care utilization data from Medicaid programs in a set of comparison states and take into account not only the average cost per long-term care user, but also the prevalence of long-term care users among Medicaid recipients. In FY 89, the first program year, the actual user ratio was replaced by the user ratio in FY 90. This was because the actual 1989 ratio was based on only nine months of coverage and therefore was understated.

The method for estimating the comparison cost is composed of five steps.

(1) Estimates are made of the monthly cost per long-term care recipient for institutional care, home health care, and acute care in each state in the comparison group.

(2) The monthly per capita costs derived in step (1) are adjusted to obtain an estimate of what the per capita costs would have been in Arizona. Adjustments are made for geographical differences in price and utilization, differences in dual Medicaid and Medicare eligibility, the effect of extreme cases, and differences between a cash and incurred cost accounting basis.

(3) The expected number of months that Medicaid eligibles would have used long-term care services in Arizona under a traditional Medicaid program is estimated from the "user ratio." The user ratio is a measure of the prevalence of long-term care users among Medicaid eligibles. It is the number of long-term care users (from SSI cash recipients and 300% of SSI eligibles) divided by the number of SSI cash recipients and is calculated for each state in the comparison group.

(4) The estimate of the medical costs that would have occurred in Arizona under a traditional Medicaid program is obtained by multiplying the average of the monthly per capita costs from step (2) and the average of the expected months of use of long-term care services from step (3).

(5) Administrative expenses are added to the comparison.

The cost of a traditional Medicaid program in Arizona is estimated separately for MR/DD and EPD eligibles. The estimates are also calculated separately for the aged and non-aged.

Arizona's actual costs and estimates for a traditional program in Arizona are given below (in thousands) for medical services and administrative costs for each year.

	Medical Services ($)		Administrative ($)		Total
	Actual	Estimate	Actual	Estimate	Savings (%)
FY 89	119,797	128,639	13,813	5,248	.2
FY 90	244,695	276,618	19,820	11,341	8
FY 91	304,983	359,863	13,419	12,955	15
FY 92	355,649	458,204	15,649	13,288	21
FY 93	414,731	527,142	16,589	15,814	21

ALTCS costs, including medical and administrative costs, are estimated to be .2% less in FY 89, 8% less in FY 90, 15% less in FY 91, 21% less in FY 92, and 21% less in FY 93 than the estimates of the cost of a traditional program in Arizona. For FY 93, ALTCS incurred costs of $431.3 million are $111.6 million less than estimated traditional program costs. Overall, the net estimated savings achieved in the program for FY 89 - FY 93 are almost $290 million (See Table III-7). Dollar amounts of savings are largest for the later years, FY 92 and FY 93. For both of these years, the net savings are more than $100 million per year. The ALTCS program has also been successful in containing cost increases below those experienced in the traditional Medicaid program comparison states. Since the first year of the program, FY 89, to FY 93, ALTCS average per capita cost increased 17% while the average per capita cost in the comparison states increased 44%, a difference of 27 percentage points in the rate of increase. For the period from FY 89 to FY

Table III-7

ALTCS SAVINGS IN THOUSANDS, FY 89 - 93

	Medical Care Savings	Administrative Excess	Net Savings
FY 89	8,842	(8,565)	277
FY 90	31,923	(8,479)	23,444
FY 91	54,880	(464)	54,416
FY 92	102,555	(2,361)	100,194
FY 93	112,411	(775)	111,636
TOTAL SAVINGS	**310,611**	**(20,644)**	**289,967**

93, the average annual increase in ALTCS per capita cost was 4.0% compared to 9.6% for a traditional program in Arizona.

Separate analyses are done of the two main ALTCS eligibility groups: the EPD and the MR/DD eligibles. As shown in Table 111-8, the ALTCS incurred cost for EPD eligibles is 3% less in FY 89, 0.4% more in FY 90, 15% less in FY 91, 22% less in FY 92, and 20% less in FY 93 than the estimated cost of a traditional Medicaid program. The per capita ALTCS cost for EPD eligibles, compared to a traditional program, is 11% more in FY 89, 10% more in FY 90, 3% more in FY 91, 7% less in FY 92, and 8% less in FY 93. However, the number of months of ALTCS eligibility for EPD beneficiaries is estimated to be 13% less in FY 89, 9% less in FY 90, 17% less in FY 91, 16% less in FY 92, and 13% less in FY 93, compared to a traditional Medicaid program. Thus, even though the cost per user is greater under ALTCS in FY 89, FY 90, and FY 91, there are savings for the EPD component of the ALTCS program because there are a smaller number of EPD users of long-term care services under ALTCS, compared to the estimated number of traditional program users. This smaller number of EPD users of long-term care services could be the result of a more stringent preadmission screening procedure in Arizona relative to the comparison states.

For MR/DD eligibles, the ALTCS incurred cost is 15% less in FY 89, 30% less in FY 90, 17% less in FY 91, 23% less in FY 92, and 23% less in FY 93. Compared to a traditional program, the MR/DD per capita cost is 18% less in FY 89, 31% less in FY 90, 34% less in FY 91, 39% less in FY 92, and 34% less in FY 93. The number of ALTCS MR/DD eligibles is 5% more in FY-89, 1% more in FY 90, 25% more in FY 91, 25% more in FY 92, and 16% more in FY 93, compared to the estimated number of MR/DD users in a traditional program.

Results from the Arizona long-term care experience indicate that EPD costs for the program are about equal for FY 90 and less than the estimates of a traditional program's cost in Arizona for FY 89 and for FY 91 through FY 93. The average cost per EPD user is more in FY 89, FY 90, and FY 91 than the traditional program estimate, but less in FY 92 and FY 93. The number of months of use is less than the traditional estimate for all years.

Table III-8

PERCENTAGE DIFFERENCE IN MEDICAL SERVICE COSTS
FOR ALTCS COMPARED WITH A TRADITIONAL PROGRAM
BY TYPE OF BENEFICIARY, FY 89 - FY 93

	EPD	MWDD	TOTAL
FY 89			
Per capita monthly cost	11.3	(18.0)	3.3
Number of months of eligibility	(12.9)	4.5	(9.8)
Total medical cost	(3.1)	(14.4)	(6.9)
FY 90			
Per capita monthly cost	9.7	(30.6)	(5.5)
Number of months of eligibility	(8.5)	0.5	(6.4)
Total medical cost	0.4	(30.3)	(11.5)
FY 91			
Per capita monthly cost	3.3	(33.5)	(8.1)
Number of months of eligibility	(17.3)	25.4	(7.8)
Total medical cost	(14.5)	(16.6)	(15.3)
FY 92			
Per capita monthly cost	(6.7)	(38.6)	(17.6)
Number of months of eligibility	(16.4)	25.2	(6.9)
Total medical cost	(22.0)	(23.1)	(22.4)
FY 93			
Per capita monthly cost	(8.2)	(33.8)	(16.1)
Number of months of eligibility	(13.1)	15.8	(6.2)
Total medical cost	(20.2)	(23.3)	(21.3)

Source: AHCCCS Administration, HCFA-64, and HCFA-2082

A large part of the overall savings estimated for the long-term care program is a result of the significantly smaller cost experience of the MR/DD group. As compared with the estimates for a traditional program, the cost per user for MR/DD eligibles is substantially less and the number of months of use is more than the traditional program estimates for all years. The state's philosophy of not institutionalizing MR/DD beneficiaries, which existed before ALTCS, likely has an important impact on the findings of smaller cost per user.

The analysis indicates that the cost of the ALTCS program from FY 89 to FY 93 is less than the cost of a traditional Medicaid program in Arizona. However, several caveats should be taken into consideration when interpreting the results. First, the primary results for the cost of a traditional program are based on a small number of comparison states that satisfied the selection criteria and for which complete data were available (6 in FY 89, 9 in FY 90, and 12 in FY 91-93). This small number of states and the degree of variation among states tend to weaken conclusions that can be made from the results. Second, although the cost analysis indicates substantial savings for the ALTCS program, it should be noted that many of the comparison states have costs that are less than the comparable ALTCS costs. Thus, even though ALTCS has smaller average costs than the average of the comparison states, ALTCS costs are greater than some of the individual comparison states.

Policy Implications

Both the AHCCCS acute care program and the ALTCS long-term care program appear to have produced substantial cost savings compared to the estimated cost of a traditional Medicaid program in Arizona. The AHCCCS acute care program has cost savings of approximately 11% of medical costs and 7% of total costs (medical and administrative) for the 11-year period from FY 83 to FY 93. Compared to the estimates of the cost of a traditional program, AHCCCS has savings in every year except the first year of the program, and the level of savings is accelerating over time. In addition, the rate of increase in costs for AHCCCS is below the rate of increase in costs for a traditional program.

The results of the cost analysis of the ALTCS program indicate savings of .2% for FY 89, 8% in FY 90, 15% in FY 91, 21% in FY 92, and 21% in FY 93. The major sources of the savings are the smaller number of EPD users and the smaller cost per member month for MR/DD eligibles in the ALTCS program, compared to estimates for a traditional program.

Thus, both the AHCCCS acute care program and the ALTCS long-term care program seem to be successful in containing costs and producing cost savings compared to the estimates of the cost of a traditional Medicaid program in Arizona. In addition, the results of the most recent procurements of health plans in Arizona indicate that the historical cost results will likely continue to produce savings at least for the next few years.

IV. SUMMARY AND CONCLUSIONS

The first Health Care Financing Administration (HCFA) evaluation of the Arizona Health Care Cost Containment System (AHCCCS) program, which was completed in 1987, focused on the acute care program. It concluded that the program was in general successful in providing acute care services to beneficiaries with as good or better access, quality, and beneficiary satisfaction, and lower costs. The evaluation supported the development of AHCCCS-type innovations in other states and the expansion of the AHCCCS program to include long-term care.

The second HCFA evaluation of the AHCCCS program focuses on the long-term care program, the Arizona Long-Term Care System (ALTCS), although it continues to follow some issues concerning the acute care program. The second evaluation indicates generally positive findings for the use of capitation in delivering care to long-term care beneficiaries and continued success for the acute care program. Utilization of services appears'appropriate and cost is considerably lower. This chapter summarizes the implementation and operation findings and the outcome findings. It closes with a discussion of overall conclusions.

Imolementation and Ooeration Findinss

The ALTCS program contracts with entities called program contractors to provide a full range of acute care, behavioral health, home and community-based (HCB), and institutional services to approximately twenty thousand program beneficiaries determined by the state to be at risk of institutionalization. Contractors are five counties, two private contractors, and the Arizona Department of Economic Security (DES). They are paid a capitation payment by the state. Capitation payments are structured to

provide incentive to serve eligibles in home anti community-based care rather than nursing homes. Discussed below are the implementation and operation issues studied: the effectiveness of program contractors; method of setting capitation payments; preadmission screening, level of care determination, and use of HCB services; administrative costs; and management information systems.

Effectiveness of Program Contractors

The ALTCS program relies on program contractors to provide appropriate acute and long-term care services to ALTCS eligibles. The contractors assess the beneficiaries and case manage the services necessary to sustain them in HCB care or to support them in nursing homes. Elderly and physically disabled (EPD) beneficiaries are assigned to the one EPD program contractor in their county of residence. Mentally retarded and developmentally disabled (MR/DD) beneficiaries throughout the state receive services from the Arizona Department of Economic Security.

ALTCS EPD program contractors in FY 95 included two urban counties, Maricopa and Pima, who were required by state legislation to provide ALTCS services to EPD beneficiaries in their counties; three rural counties that elected to exercise their right of first refusal to be the EPD contractor in their counties; and two private contractors, one who provided services to EPD beneficiaries in eight rural counties and the other who provided services to EPD beneficiaries in two rural counties. Regulating other public entities brings with it special challenges in defining roles and responsibilities and enforcing sanctions.

Contractors have the responsibility to provide covered services and case management; to manage a provider network; to distribute member handbooks; to maintain a quality management system, a financial management system, and a grievance and appeals process; to determine and collect third-party liabilities and patient share of cost; and to have a data management system that can support the timely submission of required data. Eligibility determination and enrollment are the responsibilities of the state. In

general, contractors have done a good job in managing these responsibilities except in the case of providing case management data and encounter data to ALTCS in a timely manner. The major difficulties in these areas were among the public entities in the beginning of the program.

Nursing home services are provided through contracts between the program contractors and the nursing homes. Program contractors routinely contract with almost all of the licensed facilities in their areas. Procurement of HCBS providers is limited by supply, especially in rural areas. All five county contractors and DES procure long-term care facilities and HCBS providers through competitive bid processes as required by state statute. Private contractors normally negotiate for these services.

The two urban counties and the two private contractors are affiliated with AHCCCS acute care plans. The private contractors negotiate with the physicians in the AHCCCS acute care networks of their affiliated plans to provide acute care services to their ALTCS beneficiaries. The larger of the urban contractors negotiates contracts with acute care providers, while the other urban contractor switched to a competitive bid process in 1993. In FY 94, two of the three rural county contractors had their own acute care networks and one had a contract with a group affiliated with an AHCCCS acute care plan. DES uses a competitive bidding process to select health plans in each county.

Contractors can pay for services in the manner they choose. In general, payment for institutional services is on a per diem basis, for HCB services on a per service basis, and for primary care services on a capitated basis. Services by specialist physicians are normally reimbursed on a fee-for-service basis. Thus, incentives for cost-effective management are centered with the contractors. Whether more risk can be shifted to providers is an area for future development.

Of particular concern to AHCCCS has been the coordination of AHCCCS with Medicare health maintenance organizations (HMOs). This issue is problematic because it impacts both appropriate coordination of care and equitable payment

for services. Coordination of care is impacted if two HMOs and two primary care physicians are both involved in managing care. Medicare HMO selection by Medicare beneficiaries restricts Medicare payment to the selected HMO, and consequently, AHCCCS providers cannot receive a Medicare payment for Medicare-covered services. AHCCCS first requested a federal waiver to support the integration of Medicare and Medicaid services in April 1994. In November 1995, AHCCCS resubmitted a revised waiver proposal that is awaiting a disposition from HCFA.

Method of Setting Capitation Payments

Program contractors are paid a monthly payment for each enrollee. The amount differs by contractor and county, and in FY 94 ranged from $1,850 - $2,065 for EPD beneficiaries. DES was paid $2,370 in FY 94 for each MR/DD enrollee. The capitation rate is a weighted average of the cost for those in HCBS placements and those in institutional placements. This rate is negotiated between AHCCCS and the contractor.

AHCCCS was initially concerned about the rate development process resulting in a capitation payment that was too small or too large. They knew that the ALTCS population was vulnerable and that little data were available on cost experience. Because of this, the early capitation rates required only minimal risk to be taken by the contractors, with institutional rates based on actual amounts negotiated between the contractors and their nursing homes and many components subject to reconciliation to actual costs.

As knowledge of costs developed through experience, AHCCCS moved more risk onto the contractors so that the current rates are largely set prospectively. The major area of reconciliation remaining is for the mix of HCBS and nursing home care, and adjustment is done only if the actual percentage of HCB care is more than three percent above the mix assumption. Through this and other mechanisms that have been used, AHCCCS attempts to provide incentives to contractors to develop an HCBS infrastructure and to substitute HCB care for nursing home care.

In the development of f-Y 94 rates for EPD contractors, AHCCCS used a methodology in which contractors bid on each of 11 capitation rate components. Component bids above a previously developed actuarial range were awarded at the midpoint of the range, thus providing disincentives for contractors to overbid. By this arrangement, AHCCCS hoped to identify the contractor's best price and retain control over component prices. EPD contractors, especially those who had "lost" in the bidding process by bidding above the range on certain components, are critical of the rate setting methodology. However, AHCCCS remains concerned that until bidding is open to competition in the counties they need to employ a methodology that controls individual component costs and attempts to serve beneficiaries at the lowest possible cost.

Review of financial data from the contractors for the first four ALTCS program years indicates that most are able to serve beneficiaries within their capitation payment. Exceptions are the two mandated county contractors, who in FY 92 reported losses averaging between one and two percent of revenues. County participation in this kind of program should be carefully considered. While the counties were major providers of care prior to ALTCS and contribute to the ALTCS program budget, they may have more difficulty than private contractors in aggressively managing provider costs.

Preadmission Screening, Level Care of Determination, and Use of Home and Community-Based Services

Program eligibility in ALTCS is dependent on a financial and a functional/medical assessment conducted by the state. The functional/medical assessment is applied by state-employed assessors. In the early years of the program, all applicants were screened using the same preadmission screening (PAS) instrument. The PAS for EPD beneficiaries was revised in December 1992. The resulting instrument was less subjective. A revised MR/DD PAS was implemented in September 1995. Different instruments were designed for different age ranges of the MR/DD population.

Placement decisions about the level of care are made by the program contractors. Each client is placed in an institutional or an HCBS setting. There is a HCFA-imposed cap on the percentage of EPD clients that can be served in HCBS settings. Over the years this cap has increased from 10% to 40% so that it has not served as a restriction on those in HCBS settings for several years. There is no limit on HCBS use for MR/DD beneficiaries. Before ALTCS, MR/DD treatment in Arizona was almost exclusively home and community-based, and this emphasis has continued. The imposition of the EPD cap by HCFA in the early years may have been beneficial to ALTCS as it provided strong incentives to pay substantial attention to the preadmission screening process.

Program contractors' long-term care networks generally include the full range of ALTCS services, except for ongoing difficulties securing HCBS providers in rural areas. Attendant care and respite services have been particularly problematic in rural areas. The addition of behavioral health settings to the ALTCS service package moves ALTCS further along the continuum toward the most comprehensive Medicaid long-term care program in the country. Contractors would like to see even more flexibility in allowing alternative settings and are directly involved in ways to improve operational efficiency and to lower costs. This represents a substantial degree of innovation not typical of traditional HCBS programs.

Analyses of the cost effectiveness of HCB services provided under AHCCCS for both EPD and MR/DD beneficiaries indicate that attempts to limit spending on long-term care by diverting clients from institutional to HCBS settings have been successful. This is in stark contrast to previous evaluations of HCBS programs, which have found HCB care to be a complement to institutional care not a substitute.

Administrative Costs

Administrative costs in public programs are always subjected to scrutiny. Many of the features of the ALTCS program, such as preadmission screening, case management, management information systems, use of program

contractors, capitation, and other managed care activities, increase administrative costs. At the same time these activities are hoped to result in reduced medical service costs. To the extent that medical service costs decrease more than administrative costs increase, overall program costs are reduced. This has been the pattern observed in ALTCS: larger administrative costs, smaller medical service costs, and substantial cost savings overall.

Administrative costs in ALTCS incurred by the state and the program contractors were reviewed over the first four years of the program, FY 89 - FY 92. State administrative cost data are from the HCFA-64s. Program contractor data are from reports submitted by the contractors to ALTCS.

Administrative costs (including those for the state and for the contractors) are 16% of medical service costs in the ALTCS program in FY 92. Per member monthly costs are $344 in FY 92. These costs are 30% less than those experienced in the first program year. One-fourth of the program's total administrative costs in FY 92 are state costs and three-fourths are contractor costs. This differs from the distribution observed in the first year of the program when state costs were about two-fifths of total administrative costs. Administrative costs for case management make up about one-fifth of overall costs in FY 92. This percentage has remained relatively stable since the beginning of the program.

State Medicaid programs of similar size and with comparable populations of MR/DD and home care recipients have administrative costs that range from 1.8% to 8.2% as a percentage of medical service costs. ALTCS administrative costs (including the state and the contractor costs) as a percentage of medical service costs are 16%, almost twice the largest comparison state.

Management Information System

Despite the promise of managed care as a vehicle to rationalize the health delivery system in publicly funded programs, there is often not enough consideration given to the management information development necessary for

the operation of prepaid managed care. This kind of infrastructure development involves the setting up of systems to procure providers, to monitor service networks and primary care providers, to enroll members, to make capitation payments, to regulate plan activities, and to collect and analyze utilization data. Analysis of this issue has been ongoing throughout the two evaluations.

AHCCCS, recognizing the critical importance of an effective management information system (MIS) both in terms of controlling the day-to-day transaction activity and providing critical operational and management information, implemented its Prepaid Medicaid Management Information System (PMMIS) in the first half of 1991 after a five-year development effort. Prior to implementation of this new system, AHCCCS had used a Medicaid Management Information System (MMIS) that was originally designed to support a fee-for-service Medicaid program. AHCCCS' PMMIS is an ambitious undertaking and the first-ever MIS to support a prepaid Medicaid program using the latest relational database technology.

The experience of AHCCCS in the development, implementation, and operation of the PMMIS indicates that development costs and time tables are often greater than expected. The original time frame projected implementation in mid-1989 with total implementation costs of $18 million and operation costs at the same level as the previous MIS. The total costs were $29.5 million and the system was implemented in early 1991. Post-PMMIS operational costs are $2.81 per member month as compared with $0.72 per member month for the prior system. Comparison with other Medicaid programs of the same size that have an existing MMIS indicate that AHCCCS PMMIS costs per member month are about 50% higher than the group as a whole.

Two years after implementation, review of tangible benefit projects indicate that the majority of those specifically projected had not yet shown true savings at a significant level. However, the PMMIS may be cost-effective in a broad sense if intangible as well as tangible savings are included. The AHCCCS managers who use the system believe the PMMIS is indispensable to their jobs and are very enthusiastic about the system.

With regard to the collection and reporting of utilization data in managed care programs,, both the administration and the plans have demonstrated that credible utilization data can be captured and play an important role in managing the program. The importance of having such data cannot be overemphasized in a Medicaid managed care program.

Outcome Findings

Two of the outcome issues discussed below, utilization of medical services and the cost of the program, are continuations of analyses begun in the first evaluation contract. These analyses have been updated and expanded to include the long-term care program. Two special studies are also summarized. The first is a study of the incidence of indicator conditions in nursing home residents, and the second is a study of selection bias in the acute care program.

Utilization of Services

An analysis of medical. care utilization provides important information about the number and types of services being provided within a health care program. Utilization of medical services directly impacts plan expenses and financial liability. At the same time, it reflects beneficiary access to care and appropriateness of medical services received.

Two separate populations of the AHCCCS program are examined: beneficiaries in chronic long-term care and acute care beneficiaries. Data for AHCCCS beneficiaries are the claims and encounters submitted by the prepaid health plans and contractors. Comparison data include detailed Medicaid claims from the New Mexico Medicaid program and published data from other sources. For the analysis of long-term care beneficiaries, claims data from the Medicare program are also examined.

Lons-Term Care Beneficiaries

Data compared are for January 1, 1991 through September 30, 1992, for all ALTCS beneficiaries and all long-term care beneficiaries in New Mexico. Because of data limitations, data are not available for MR/DD beneficiaries on placement status or non-institutional utilization.

Review of data for EPD beneficiaries indicates that Arizona beneficiaries utilize fewer inpatient days, procedures, and outpatient laboratory tests, but more outpatient services, evaluation and management services, imaging, HCB services, other services, and prescriptions than New Mexico beneficiaries. Examination of MR/DD Medicaid data for institutional services demonstrates the different philosophies of institutionalizing this population in the two states. The number of nursing home days per MR/DD person year in New Mexico is more than 16 times the number in Arizona.

Multivariate analyses support the findings above and indicate the impact of Medicare coverage on the use of medical care services of all types. Having Medicare coverage significantly increases service use of all kinds. Older age groups are consistently associated with less use of all services, although the effect of age is not nearly so pronounced as that of Medicare coverage.

Acute Care Beneficiaries

Data compared are for FY 91 and FY 92 for a five percent random sample of all AHCCCS acute care and New Mexico Medicaid beneficiaries not using chronic long-term care services. Medicare beneficiaries are excluded. The number of hospital days, procedures, outpatient services, and imaging services is smaller in Arizona than in New Mexico. Evaluation and management services and test use in Arizona is about the same or larger. These relationships hold true for both Aid to Families with Dependent Children (AFDC) beneficiaries and Supplemental Security Income (SSI) beneficiaries without Medicare.

Comparison rates from other Medicaid managed care plans, Medicaid fee-for-service programs, managed care groups, and general population surveys were also sought. Disappointingly, only three Medicaid managed care programs were found with data that could be used in comparison with AHCCCS. The lack of data from other Medicaid managed care programs should be an area of concern not only because it represents an unfulfilled state requirement, but also because of its critical importance in managing these programs. If managed care is to be given the opportunity to be a success in Medicaid, a workable managed care infrastructure is of paramount importance.

In general, review of the data from other sources is consistent with that hypothesized for managed care and found in the Arizona and New Mexico comparison. Overall intensity of resources use is similar for like kinds of beneficiaries in the two states, but the patterns show a distribution in Arizona de-emphasizing the use of institutional services and specialty care.

Utilization rates reported for both the long-term care and acute care programs indicate that there appears to be no evidence for underutilization of services in AHCCCS. On the contrary, given that a utilization analysis based on the submission of encounter data may result in underreporting of service use, the results indicate robust utilization of services.

Special Studies

Indicator Study

The indicator study examines the incidence of specific indicators associated with quality of care in the EPD nursing home populations in ALTCS and in the New Mexico Medicaid program in 1990 and 1991. These indicators are decubitus ulcers, falls, fractures, fevers, use of indwelling urinary catheters, offering of influenza vaccines, and prescribing of psychotropic drugs.

Nursing home records were coded at the nursing homes. For services received in the second and third ALTCS program years, information coded includes patient demographics and other characteristics; cognitive status, physical assessment and mobility assistance device use; bladder and bowel continence; activities of daily living (ADLs) (mobility, transfers, feeding, dressing, bathing, toileting, and personal hygiene); and the incidence of indicator conditions during the assessment period.

The analytic results indicate that nursing home residents in the ALTCS program were more likely to experience a decubitus ulcer, a fever, or a catheter insertion than nursing home residents served by the New Mexico Medicaid program. ALTCS nursing home residents were also less likely to be offered an influenza vaccine than Medicaid nursing home residents in New Mexico. There are no significant differences between nursing home residents in ALTCS and those in New Mexico Medicaid with respect to the incidence of patient falls or fractures or in the use of psychotropic drugs.

The lower quality of care found for certain indicators in ALTCS must be balanced against limited evidence that suggests the quality of care may be higher than the national average for the indicator conditions in both states; the payment of per diem rates to nursing homes for reimbursement both in Arizona and New Mexico; lack of data on quality of care pre-ALTCS; and the short time frame between the start of the ALTCS and the beginning of the study. In addition, the problems identified were taken seriously by the AHCCCS Administration, which has initiated steps to include assessments of problem areas found in their ongoing quality assurance activities. The findings are provocative, but further investigation is warranted before concluding that a capitated system for long-term care leads to lower quality of care.

Selection Bias

Selection bias has long been recognized as a potentially serious problem in health services markets whenever beneficiaries are offered a choice among plans. This analysis uses the natural experiment created by the random

assignment of certain beneficiaries to evaluate selection bias among AHCCCS plans in Maricopa County, Arizona's largest county. Plan effects, measured by utilization differences in the randomly assigned group, are used to isolate utilization differences in the non-random group that are attributed to selection effects. Separate analyses are undertaken for AFDC adults, AFDC children, and the Children's Care Program (Sixth Omnibus Budget Reconciliation Act [SOBRA] eligible children and non-categorically eligible children).

In general, selection does not seem to be a major issue in the AHCCCS program. The strongest evidence of differential selection comes from the analysis of AFDC-eligible adults. Selection bias does not appear to be a problem among children. The most consistent pattern to emerge from the analyses is some selection favoring the newest entrant to AHCCCS of the plans included in the study. This suggests that selection in AHCCCS is mainly a cohort effect that will lessen over time.

While it is not a typical dimension of selection bias, the relative shares of randomized and non-randomized beneficiaries in a plan are a major component of the difference between plans in enrollee risk. Beneficiaries who do not choose a plan are substantially less costly than those who do and the relative shares of these two groups differ significantly by plan. This comparative profitability of assigned beneficiaries may provide AHCCCS with leverage to negotiate lower payment rates because the proportion of assigned beneficiaries allocated to a plan is dependent on its capitation rate relative to other plans in the county.

Cost of the Program

AHCCCS Acute Care Program

The acute care program cost analysis methodology compares the actual costs incurred by AHCCCS to the estimated costs of a traditional program in Arizona. Actual costs include: capitation payments to the plans; fee-for-service, reinsurance, and deferred liability claims; Medicare Part B premiums;

disproportionate share hospital payments; third-party recoveries; and administrative costs.

The estimated cost of a traditional Medicaid program is the adjusted average per capita cost for a set of comparison states. Separate analyses are done of AFDC, SSI aged, SSI disabled, and SSI blind beneficiaries. Comparison states were picked for each eligibility group. The states included for each group were selected because of the quality of their data and the similarity of their program rules to Arizona's. Thirteen comparison states were used for the AFDC comparison and 20 comparison states for the SSI aged, SSI disabled, and SSI blind comparisons.

The cost of the acute care program has been evaluated for the first 11 years of the program, FY 83 through FY 93. During that period the AHCCCS program produced cost savings of approximately $200 million, an average of approximately 11% of medical service costs and 7% of total costs (medical services plus administrative), compared to a traditional Medicaid program.

When costs are examined over the 11-year period, average savings as a percent of traditional program estimates are -4.5% in the first year (FY 83), an average of 3.6% per year for the next five years (FY 84 through FY 88), and an average of 8.3% per year for the last five years (FY 89 through FY 93). Savings estimates for FY 91, FY 92, and FY 93 are between $40 and $50 million.

The annual increases in cost for the AHCCCS acute care program relative to a traditional program are also smaller. The average annual increase for AHCCCS costs was 9.1% per year as compared to 10.3% per year for a traditional program in Arizona.

ALTCS Program

A similar methodology was used to analyze the costs of the ALTCS program as is described above for the acute care program. Estimates were made for the first five years of the program, FY 89 through FY 93.

The cost of providing long-term care services to a Medicaid population depends on the percentage of that population that uses long-term care services and the cost per month of providing care to those users. Estimates of the number of users, cost per month, and total cost for ALTCS were compared with corresponding experience of traditional Medicaid programs in the comparison states. Six states were used in the comparison in FY 89, nine states in FY 90, and 12 states in FY 91 through FY 93. The states were selected because of the similarity of their Medicaid requirements with Arizona and the reliability and completeness of their data.

ALTCS costs, including medical and administrative costs, were estimated to be an average of 16% per year less than the cost of a traditional Medicaid program in Arizona for the period FY 89 through FY 93. If only medical services are considered the program savings would be 18% per year. Total cost savings realized were almost $290 million. Estimated cost savings per year have increased over time. They were .2% in FY 89, 8% in FY 90, 15% in FY 91, 21% in FY 92, and 21% in FY 93, compared to estimates of the cost of a traditional Medicaid program in Arizona. Cost savings in the last two years, FY 92 and FY 93, were estimated to be over $100 million.

The annual increases in cost for ALTCS relative to a traditional program are also smaller. The average annual cost increase for ALTCS costs was 4.0% per year as compared to 9.6% per year for a traditional program in Arizona.

Analyses of the two kinds of ALTCS beneficiaries, EPDs and MR/DDs, show different patterns of cost savings. The EPD population experienced more cost per user in the first three years and slightly smaller costs in FY 91 and FY 92. The number of months of use was consistently smaller than estimates for the traditional program. The MR/DD costs per user were consistently less than the estimates of a traditional program, while the MR/DD number of months of use was larger.

In summary, both the AHCCCS acute care program and ALTCS seem to be successful in producing cost savings. Modest cost savings estimated for the early years of program implementation have accelerated over time. Through FY

93, cost savings for the first 11 years of the acute care program and the first five years of the ALTCS program were almost $490 million. These cost savings have a good probability of continuing as the latest bidding cycle has demonstrated increased market competition resulting in downward pressure on capitation rates.

Conclusions

As Americans today look for ways to rationalize the delivery of medical care services, capitation appears to demonstrate one viable option. Findings from the evaluations of the AHCCCS program have indicated success in delivering services statewide to Medicaid eligibles of all eligibility groups.

This evaluation assessed the implementation and operation, and outcomes of Arizona's capitated Medicaid program for long-term care beneficiaries. It also continued to follow some operational and outcome issues studied in the earlier HCFA AHCCCS evaluation, which focused on acute care beneficiaries.

The implementation of the ALTCS program has generally met with success. The state conducts the preadmission screening and controls entry to the program. Capitated contractors determine the beneficiary's placement and successfully manage, arrange for, and pay for a full range of acute, behavioral health, home and community-based, and institutional services. Contractors' capitation rates provide incentives for the use of home and community-based care rather than nursing home care. The use of home and community-based care as a substitute for nursing home care in ALTCS is cost-effective. Administrative costs, including both state and contractor costs, are substantially higher than comparable Medicaid programs. However, these costs support managed care activities that reduce medical service costs and result in significantly smaller overall program costs.

Review of the mature AHCCCS acute care program (Years 6 - 11) indicates continued success for the program. Cost savings are increasing, the market

place is getting more competitive, utilization of services is appropriate, and management information system development has stabilized. AHCCCS has successfully implemented a Prepaid Medicaid Management Information System and has demonstrated that credible utilization data can be captured and play an important role in program management.

Outcomes of the program are generally positive. With respect to the utilization of services, both in the acute care and long-term care programs, Arizona beneficiaries have fewer hospital days, fewer procedures, and more evaluation and management services than traditional fee-for-service Medicaid programs. Overall intensity of service use is similar, but Arizona's pattern of use shows a distribution de-emphasizing the use of institutional services and specialty care.

Although analysis of the occurrence of indicator events in nursing homes in the second and third program years has demonstrated areas of concern, the problems identified were taken seriously by the AHCCCS Administration, which has initiated steps to include assessment of the problem areas found in their ongoing quality assurance activities.

Cost of the program as compared to a traditional Medicaid program is 7% less per year for the acute care program averaged over the first 11 years of the program, and 16% less per year for the long-term care program for its first five years. As importantly, AHCCCS program costs are increasing more slowly than the estimates of a traditional program. For the acute care program, they are increasing 1.2% slower per year; for the long-term care program, they are increasing 5.6% slower per year. Cumulative total cost savings estimated are almost $500 million as of FY 93.

Despite the strong success of this state in implementing innovative changes in their Medicaid program, there remain important functions that cannot be conducted by any one state, but require coordinated effort. Fifty

states administering Medicaid programs need support from some centralized entity to insure accountability in the following areas:

- Standardized reporting of utilization data and program costs
- Technical assistance on issues of program implementation
- Funding research to assess what does and does not work
- Providing a forum for the sharing of ideas.

Whether this support can be available and given effectively will have a significant impact on the ability of the states to successfully provide services in the future to this country's indigent population.

ENDNOTES

1. The terms eligibles and beneficiaries are used throughout this report to identify those who have been determined to be eligible for the program by the state. This does not include those who are eligible but have not been deemed eligible by the state nor is it restricted only to those who have received services. The term enrollees is used for eligibles who have been enrolled with an acute care plan or a long-term care program contractor.

2. Two kinds of reinsurance are available: regular reinsurance and catastrophic reinsurance. Regular reinsurance covers inpatient hospital expenses over a deductible with a copayment. In the acute care program the deductible varies by plan size. Plans with less than 10,000 enrollees have a deductible of $20,000, those with enrollment between 10,000 and 50,000 have a deductible of $35,000 and those over 50,000 have a deductible of $50,000. After the deductible is reached AHCCCS reimburses 75% of the cost. For ALTCS program contractors the deductibles for the regular reinsurance program are $12,000 in urban areas for beneficiaries with Medicare and $20,000 in urban areas for beneficiaries without Medicare. In rural areas the deductibles are $5,000 for beneficiaries with Medicare and $9,000 for beneficiaries without Medicare. Catastrophic insurance is available for both acute care plans and ALTCS program contractors having beneficiaries with hemophilia and certain organ transplants. There is no deductible for these beneficiaries. AHCCCS pays 85% of reasonable costs paid.

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13. The non-random group includes both beneficiaries that chose their plan, as well as those that are manually assigned to a plan. Beneficiaries are manually assigned mainly to ensure enrollment in the same plan as other family members.

14. AFDC beneficiaries over the age of 18 are considered adults. CCP includes Eligible Assistance Children (EAC), Eligible Low Income Children (ELIC), and children eligible under SOBRA. The AFDC and CCP samples are analyzed separately because plans receive different capitation rates for these groups. Separate regressions are estimated for AFDC adults and children because their utilization patterns were expected to differ substantially.

15. The Arizona costs reported in this chapter differ from the costs reported on the HCFA-64 because of the following reasons: (1) the costs for eligibility groups other than AFDC and SSI are excluded; (2) the costs for Indians on reservations are excluded (IHS facility costs and referrals off reservation); and (3) selected administrative costs that are one-time costs or costs unique to Arizona are excluded (i.e., PMMIS development costs). In addition, the costs reported in this chapter are on an incurred cost basis by date of service, whereas the HCFA-64 costs are reported on a cost basis by date of payment. These adjustments were made to maximize comparability across states and over time.

16. The HCFA-64, a quarterly report of Medicaid expenditures, is the most reliable source of financial data on the Medicaid program. The annual HCFA-2082 statistical report contains utilization and cost information by category of eligibility. Our analysis relies primarily on the HCFA-64 data using the information from the HCFA-2082s to distribute the cost by category of eligibility. Although these data sources are the most reliable ones available, it should be remembered that there are often differences in how individual states report these Medicaid data.

17. Costs reported differ from those costs reported on the HCFA-64 because of the following reasons: (1) the costs for Indians on reservations are excluded (IHS facility costs and referrals off reservation), (2)

selected administrative costs that are one-time or unique to Arizona are excluded. In addition, the costs reported are on an incurred basis by date of service, whereas the HCFA-64 costs are reported on a cost basis by date of payment. These adjustments were made to maximize comparability across states and over time.

Appendix A

REPORTS ON THE ARIZONA HEALTH CARE COST CONTAINMENT SYSTEM PREPARED UNDER CONTRACT #500-89-0067

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Appendix B

CHRONOLOGY OF THE ARIZONA HEALTH CARE COST CONTAINMENT SYSTEM

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November 1981	S.B. 1001 signed into law establishing the AHCCCS program.
March 1982	Request for Proposal for AHCCCS Administrator issued.
May 1982	Selection of MSGI as AHCCCS Administrator. Section 1115 Waiver Request submitted to HCFA.
July 1982	Request for Proposals from AHCCCS acute care plans issued for FY 83.
July 1982	HFCA approval of 1115 Waiver Request for FY 83.
October 1982	AHCCCS program begins
May 1983	Request for Proposals from AHCCCS acute care plans issued for FY 84, with renewal option for FY 85.
February 1984	MSGI serves 30-day termination notice on state.
March 1984	State assumes administration of AHCCCS.
May 1984	H.B. 2551 establishes an independent state AHCCCS Administration.
May 1985	Documentation for MMIS certification forwarded to HCFA. Request for Proposals from AHCCCS acute care plans issued for FY 86, with renewal option for FY 87.
February 1986	PMMIS activity commences.
October 1986	Ribicoff Children under age 18 included in AHCCCS as AFDC eligibles. MI/MN coverage expanded for pregnant women and their infants.
January 1987	Children's Care Program (new state-only eligibility group) begins.
April 1987	Request for Proposals from AHCCCS acute care plans issued for FY 88, with renewal option for FY 89.
May 1987	S.B. 1418 signed into law making AHCCCS permanent and creating the Arizona Long-Term Care System.
June 1987	Request for Proposals from ALTCS contractors issued for FY 89, with renewal option for FY 90.

January 1988	Coverage of SOBRA eligibles (pregnant women and children under age 2 falling under the federal poverty level) begins.
December 1988	ALTCS program begins for MR/DD beneficiaries.
January 1989	ALTCS program begins for EPD beneficiaries.
April 1989	Request for Proposals from AHCCCS acute care plans issued for FY 90.
July 1989	Coverage of premiums, deductibles, and co-insurance for Qualified Medicare Beneficiaries (QMBs) begins.
April 1990	Request for Proposals from AHCCCS acute care plans issued for FY 91, with renewal option for FY 92. Request for Proposals from ALTCS contractors issued for FY 91, with renewal options for FY 92 and FY 93.
October 1990	Phase-in of behavioral health services begins.
March 1991	PMMIS implemented.
March 1992	Request for Proposals from AHCCCS acute care plans issued for FY 93, with renewal option for FY 94.
July 1992	Undocumented individuals limited to emergency care only.
December 1992	Revised EPD PAS implemented.
April 1993	Request for Proposals from ALTCS contractors issued for FY 94, with renewal options for FY 95 and FY 96.
March 1994	Request for Proposals from AHCCCS acute health plans issued for FY 95, with renewal option for FY 96.
April 1994	Waiver proposal for Medicaid/Medicare dual eligibles submitted to HCFA. Waiver proposal to capitate IHS as a risk plan submitted to HCFA.
September 1995	Revised MR/DD PAS implemented. ALTCS transitional program implemented.
October 1995	Phase-in of behavioral health services complete.